



CODE CHANGES RESOURCE COLLECTION: 2009 IFC[®]

APPROVED CODE CHANGES RESULTING IN THE 2009 IFC[®]



Code Change Resource Collection: 2009 IFC

First Printing: March 2009

COPYRIGHT © 2009
BY
INTERNATIONAL CODE COUNCIL, INC.

ALL RIGHTS RESERVED. This 2009 International Fire Code Changes Resource Collection copyrighted work owned by the International Code Council, Inc. Without advance written permission from the copyright owner, no part of this book may be reproduced, distributed, or transmitted in any form or by any means, including, without limitations, electronic, optical or mechanical means (by way of example and not limitation, photocopying, or recording by or in an information storage retrieval system). For information on permission to copy material exceeding fair use, please contact: Publications, 4051 West Flossmoor Road, Country Club Hills, IL 60478 [Phone: (888) 422-7233].

Trademarks: International Code Council®, the International Code Council® logo are trademarks of the International Code Council, Inc.

PRINTED IN THE U.S.A

INTRODUCTION

Why did IFC/2009 section [fill-in section number] change from the 2006 edition? This resource collection has been compiled to provide the answers to such questions.

This resource collection provides the published documentation for each successful code change in the IFC/2009 since the 2006 edition. Each changed code section is listed in the Table of Changes which contains three headings. The first heading is "A2009 IFC" which lists the section number in the 2009 code. If (new) appears after the section number it indicates that the section is new in 2009. If (deleted) is indicated in 2006 it means that the section no longer exists and the second column "A2006 IFC" will show the section number that was deleted. Also, the second heading will indicate if a section number has changed from 2006 to 2009. If there is nothing indicated in the 2006 column, the section number remained the same. The third heading lists the code change number(s) which affected that particular section and the page number, in parentheses, on which that particular code change(s) can be located. The published material for each change is contained in the Documentation section.

HOW TO USE THE HANDBOOK

This resource collection makes it possible for the reader to examine, in one location, all published information about a particular code change. For any given change, the text of the proposed change, committee actions and modifications, assembly actions, successful public comments, and final action can be found by using the following steps:

1. Locate the code section in the Table of Changes beginning on page ix, using the 2009 IFC section number.
2. Note the corresponding proposed code change number(s) from the list.
3. Locate the proposed code change number (listed in numerical order under the appropriate year and letter designation) in the Documentation section to read the complete chronological documentation of the proposed change

SOURCE DOCUMENTS

The code development cycle involves the publication of four documents, the result of 1) public submittal of proposed changes, 2) a public hearing and committee/assembly actions, 3) submittal of public comments to the committee or assembly actions, and 4) final action results. Under each code change number in the Documentation section of this handbook, material corresponding to that individual proposed change has been drawn from each of the four publications. Two code change cycles occurred between published editions of the 2006 and 2009 IFC; therefore, the Documentation section of this handbook contains material collected and collated from the following published documents:

2006/2007 Documentation

2006/2007 Proposed Changes to the International Codes
2006 Report of the Public Hearing on the International Codes
2007 Final Action Agenda on the International Codes
Final Action on 2006/2007 Proposed Changes to the International Codes

2007/2008 Documentation

2007/2008 Proposed Changes to the International Codes
2008 Report of the Public Hearing on the International Codes
2008 Final Action Agenda on the International Codes
Final Action on 2007/2008 Proposed Changes to the International Codes

Unsuccessful proposed changes have not been included since they do not directly affect the final content of the code section.

RESOURCE COLLECTION FORMAT

Code Change No: F51-07/08

Code change numbers are identified with a letter and a year designation. For instance, **F51-07/08** is proposed change number 51 to the *International Fire Code* and was submitted in the **07/08** (2007/2008) code change cycle. (See *Code Change Numbers* on page v for a discussion of code committees)

Original Proposal

This is the proposal as published in the *2007/2008 Proposed Changes to the International Codes*. It includes the section number(s), proponent's name, who they are representing, the text of the proposed change and their reason for the change. This is a change to IFC Section 308 – note the term *ASupp* following some section numbers which means this text is found in the 2007 Accumulative Supplement to the International Codes.

Public Hearing Results

This is the result of the Code Development Hearing held to consider the change, as published in the *2008 Report of the Public Hearing to the International Codes*. It includes the committee's action (Disapproved) and reason for the action and also identifies if there was an assembly motion (none).

Public Comments

This is text of the submitted public comment, as published in the A2008 Final Action Agenda to the International Codes®. It includes the public commentor-s name and affiliation, the requested action to be considered at the Final Action Hearing (Approved as Modified) and the reason.

Note: Only those code changes which received a public comment which resulted in a final hearing action different than a committee action are published.

Final Hearing Results

This is the action taken by the eligible voting members of the ICC at the Final Action Hearing, as published in the AFinal Action on 2007/2008 Proposed Changes to the International Codes®. The Final Action was AAMPC® which means the eligible voting members of ICC overturned the committee-s action and approved the change based on the submitted public comment.

CODE CHANGE NUMBERS

The following is the legend for code change numbers, along with the applicable committee and the committee-s primary area of responsibility relative to the IFC.

Prefix	Code Committee	Primary IFC Chapters Affected
F	IFC Code Committee	Chapters 1-9; 11-44
FG	IFGC Code Committee	Chapter 1
E	IBC Means of Egress Committee	Chapter 10
FS	IBC Fire Safety Committee	Chapter 9
G	IBC General Committee	Chapters 2, 4

Although most changes to the IFC are found under proposed change numbers beginning with an F, some changes to the IFC are published within a proposed change to the other *International Codes*, and therefore are found under a proposed code change number beginning with one of the other letters listed above. Use the table of contents to locate appropriate sections by year and letter designation.

CODE SECTION NUMBER DIFFERENCES

For editorial reasons, some code section numbers in the 2009 edition have changed from the 2006 edition. The numbering of code sections is an editorial task which takes place outside of the normal code development cycle, and is necessary to avoid duplicate or nonsequential section numbers.

The Table of Changes typically references the 2006 code section numbers that have been deleted. (See Introduction)

In most cases the section numbers have not changed from the 2006 to the 2009 edition. However, the reader should remember that it is always the 2006 code section numbers (or in rare cases, a different number corresponding to a 2007 Supplement numbering change) which appear in the material contained in the Documentation section. This is due to proposed changes which have as their basis, a section number in the 2006 edition. Since an attempt to correlate code sections by number may lead to confusion, the user is advised to rely on the section content rather than the numbers to locate and compare parallel sections in the two editions.

ABBREVIATIONS FOR ACTIONS

In the Documentation section, the following abbreviations are used to signify committee or final action:

Legend for 2006/2007 and 2007/2008 Documentation:

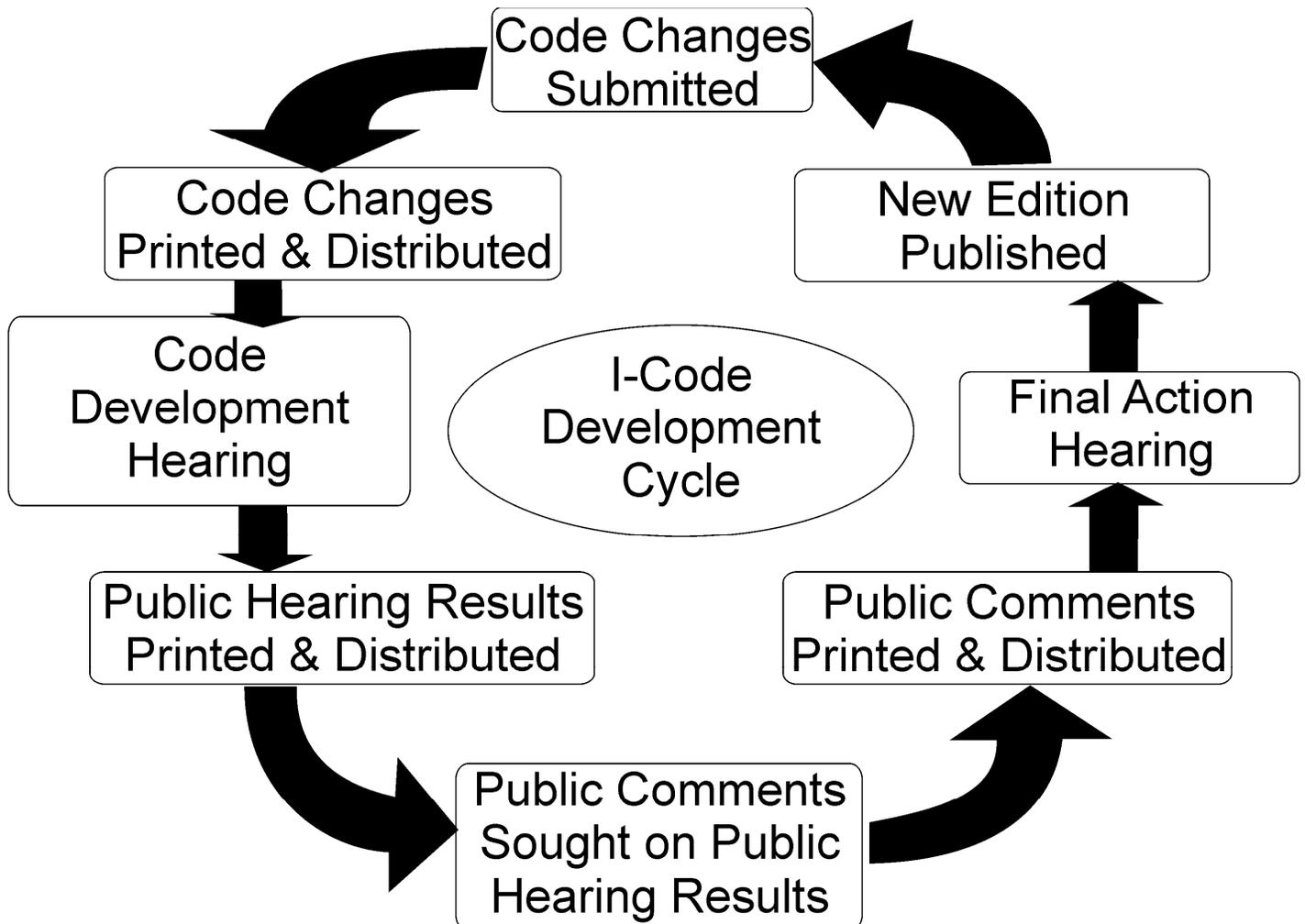
AS	=	Approved as Submitted
D	=	Disapproved
AM	=	Approved as Modified by the Code Committee
AMPC	=	Approved as Modified by a Public Comment
WP	=	Withdrawn by Proponent

CODE CORRELATION COMMITTEE

During the course of the code development process, there are editorial issues, issues related to code correlation problems arising from code changes, and issues related to the appropriate committee that should consider certain topics. These issues are placed before the ICC Code Correlation Committee for resolution. During the development of the 2009 Code, from 2006 to 2009, the Code Correlation Committee met 3 times to discuss and resolve these issues. The parts of the code that were affected by a Code Correlation Committee action are indicated with the letters ACCC® beside that section of the code. All Code Correlation Committee actions are listed at the end of this handbook.

ICC CODE DEVELOPMENT PROCESS

The following depicts the key steps in ICC-s Code Development Process:



The procedures governing ICC Code Development are entitled ACode Development Process for the International Codes®. These procedures are updated periodically and therefore not included here. To obtain the current version, visit ICC-s website at www.iccsafe.org.

TABLE OF CHANGES

CHAPTER 1 ADMINISTRATION

CHAPTER 2 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)	2006 IBC DEFINITIONS	CODE CHANGE NUMBER(S)
Chapter 1 Title		G221-06/07	202.....	G24-07/08, G30-07/08
Part 1 (New), Sections 101-102.....		G221-06/07	Aircraft Motor-Vehicle	
Section 101 Title.....		G221-06/07	Fuel-Dispensing Facility (New)	F225-07/08
Part 2 (New) Sections 103-111).....		G221-06/07	Alcohol Blended Fuels (New).....	F230-07/08
101.2		F2-07/08	Ambulatory Health Care Facility	G23-07/08
102.1		F294-07/08	Automated Rack Storage.....	F240-07/08
102.5 (New)		F3-07/08	Automatic Smoke Detection	
102.9		F1-06/07	System (New)	F163-07/08
102.10 (New)		F1-06/07	Bulk Hydrogen Compressed	
102.11 (New)		F1-06/07	Gas System (New).....	F191-06/07
103.4		F3-06/07	Bulk Liquefied Hydrogen	
104.9.1 (New)		F7-07/08	Gas System (New).....	F191-06/07
104.9.2 (New)		F7-07/08	Canopy	F243-07/08
105.2.3		F11-07/08	Child Care Facility.....	G30-07/08
105.3.2		F12-07/08	Clinic-Outpatient	G24-07/08
105.3.3		F13-07/08	Detoxification Facility	G30-07/08
105.3.8 (New)		F14-07/08	Elevator Group (New)	F83-06/07
105.4.1		F15-07/08	Existing	F294-07/08
105.4.1.1 (New)		F17-07/08	Exit Access Doorway (New).....	E110-07/08
105.4.2.1 (New)		F19-07/08	Factory Industrial F-1 Moderate-hazard	
105.4.4.1 (New)		F20-07/08	Occupancy.....	G25-07/08, G26-07/08
105.4.6		FG5-07/08	Factory Industrial F-2 Low-hazard	
105.6.16.....		F23-07/08, F24-07/08	Occupancy.....	G26-07/08
105.6.23.....		F10-06/07	Flight (New)	E6-06/07
105.6.31.....		F10-06/07	Float (New)	F210-06/07
105.6.43.....		F243-07/08	Group H High-hazard.....	G28-07/08
105.7.3		F26-07/08	Group I-2	G30-07/08
105.7.4 (New)		F27-07/08	Group I-4 Adult Care Facility.....	G46-06/07
105.7.7	105.7.6	F28-07/08	Group I-4 Child Care Facility.....	E10-07/08
105.7.14.....	105.7.13	F243-07/08	Group R, Residential	G47-06/07, G92-06/07, G36-07/08
106.2.1 (New)		F14-06/07	Group S-1, Moderate-hazard storage	G25-07/08
106.2.2 (New)		F14-06/07	Group S-2, Low-hazard storage.....	G25-07/08, G26-07/08
106.3		F15-06/07	Hospitals and Mental Hospitals.....	G30-07/08
112 (New)		F33-07/08	Insert Gas (New).....	F36-07/08
113 (New)		F20-06/07	Interior Floor-Wall Base (New).....	F65-06/07
			Labeled	G16-07/08
			Liquid Oxygen Home	
			Care Container (New)	F205-06/07

CHAPTER 2 DEFINITIONS

2006 IBC DEFINITIONS	2006 IFC	CODE CHANGE NUMBER(S)
201.4		F23-06/07 (p. 11)

CODE CHANGES RESOURCE COLLECTION C INTERNATIONAL FIRE CODE

CHAPTER 2 (continued)

2006 IBC DEFINITIONS	CODE CHANGE NUMBER(S)
Liquid Oxygen Ambulatory	
Container (New)	F205-06/07
Listed	G17-07/08
Lithium-Ion Battery (New)	F45-06/07
Lithium Metal Polymer Battery (New)	F53-06/07
Lockdown (New)	F61-07/08
LP-Gas Container (New)	F201-06/07
Marina (New)	F210-06/07
Metal Hydride (New)	F194-06/07
Metal Hydride Storage System (New)	F194-06/07
Nursing Homes	G30-07/08
Oxidizing Cryogenic Fluid (New)	F174-06/07
Photoluminescent (New)	E144-07/08
Pier (New)	F210-06/07
Portable Outdoor Fireplace (New)	F44-07/08
Pyrotechnics (New)	F180-06/07
Pyrotechnic Article (New)	F180-06/07
Recreational Fire	F44-07/08
Self-Luminous (New)	E144-07/08
Site Fabricated Stretch System (New)	F119-07/08
Suite (New)	E95-07/08
Tent	F243-07/08
Tube Trailer (New)	F260-07/08
Vessel (New)	F210-06/07
Wharf (New)	F210-06/07
Wildfire Risk Area (New)	F10-06/07, CCC
Zone, Notification (New)	F84-06/07

**CHAPTER 3
GENERAL PRECAUTIONS AGAINST FIRE**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Chapter Title		F40-07/08
301.1		F40-07/08
302.1		F44-07/08
304.3		F42-07/08
304.3.2		F41-07/08
304.3.4 (New)		F42-07/08, CCC
307 Title		F44-07/08
307.1.1		F43-07/08
307.4.3 (New)		F44-07/08
307.5		F44-07/08
308.1		F51-07/08
308.1.1	308.2	F51-07/08
308.1.2	308.2.1	F51-07/08
308.1.3	308.4	F51-07/08
308.1.4	308.3.1	F51-07/08, F28-06/07, F48-07/08

CHAPTER 3 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
308.1.4		
Exception 3	308.3.1.1	F28-07/08, F48-07/08
308.1.5	308.3.3	F51-07/08
308.1.6	308.5	F10-06/07, F51-07/08
308.1.6.1	308.5.1	F10-06/07, F51-07/08
308.1.6.2	308.5.2	F51-07/08
308.1.7	308.3.5	F51-07/08
308.1.7.1	308.3.4	F51-07/08
308.1.8	308.6	F51-07/08
308.1.8.1	308.6.1	F51-07/08
308.1.8.2	308.6.2	F51-07/08
308.1.8.3	308.6.3	F51-07/08
308.1.8.4	308.6.4	F51-07/08
308.1.8.5	308.6.5	F51-07/08
308.2 (New)		F51-07/08
Deleted	308.3	CCC
308.3	308.3.7	F51-07/08
308.3.1	308.3.2	F51-07/08
308.3.2	308.3.6	F51-07/08
308.4 (New)		F51-07/08
Deleted	308.4.1	CCC
308.4.1	308.3.8	F51-07/08
311.2.1		F29-06/07
311.2.2		F53-07/08
311.5		F30-06/07
311.5.2		F31-06/07
311.5.4		F54-07/08
313.1		F55-07/08
315.3.1		F56-07/08
315.4 (New)		F78-07/08
316 (New)	507	F40-07/08
316.1	507.1	F40-07/08
316.2	507.2	F40-07/08
316.2.1	507.2.1	F40-07/08
316.2.2	507.2.2	F40-07/08
316.3	507.3	F40-07/08
316.4	401.5	F40-07/08
316.5 (New)		F78-07/08
316.5.1 (New)		F78-07/08
316.5.2 (New)		F78-07/08
317 (New)		F58-07/08

**CHAPTER 4
EMERGENCY PLANNING AND PREPAREDNESS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
401.3		F34-06/07 (p. 14)
401.3.1	401.3	F34-06/07 (p. 14)

CHAPTER 4 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
401.3.2		F34-06/07
401.3.3	401.3.2	F34-06/07
401.3.4 (New)		F35-06/07
401.4 (New)		F34-06/07
401.5	401.3.1	F34-06/07
401.6	401.3.3	F34-06/07
402.1		F61-07/08
403.3 (New)		F59-07/08
404.1		F61-07/08
404.2		F60-07/08
404.3.1		E38-06/07
404.3.2		E38-06/07
404.3.3 through 404.3.3 (New)		F61-07/08
404.5.1 (New)		F36-06/07
Table 405.2		F60-07/08
406.3.3 (New)		F61-07/08
407.2		F62-07/08
408.11.1		F38-06/07

**CHAPTER 5
FIRE SERVICE FEATURES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
501.3		F65-07/08
503.2.1		F67-07/08
503.2.8 (New)		F68-07/08
503.3		F69-07/08
503.5		F70-07/08
503.6		F70-07/08
504.3		F73-07/08
505.1		F40-06/07
507.5.4	508.5.4	F133-06/07
508	509	F43-06/07, F84-07/08, F85-07/08, CCC
509.2 (New)		F44-06/07 (p. 20)
510 (New)		F87-07/08 (p. 373)

**CHAPTER 6
BUILDING SERVICES AND SYSTEMS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
602.1		F45-06/07, F53-06/07
603.3.1		F46-06/07
Deleted	603.3.2	F46-06/07
603.3.2 thru 603.3.2.5 (New)		F46-06/07

CHAPTER 6 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
603.4		F47-06/07
603.4.2 thru 603.4.2.3.4 (New)		F47-06/07, CCC
Deleted	604.2.13	F206-06/07
604.2.14.1.3	604.2.15.1.3	F89-07/08
604.2.14.3	604.2.15.3	F89-07/08
605.10		F91-07/08
606.8		F51-06/07
606.9.1		F52-06/07
606.10.1.1		F93-07/08
606.10.2.2		F93-07/08
606.13		F94-07/08
607.1		F294-07/08
607.3 (New)		F95-07/08
608.1		F53-06/07
Table 608.1		F53-06/07
608.3		F53-06/07
608.5		F53-06/07
608.5.1		F98-07/08
608.5.2		F53-06/07, F98-07/08
608.6.1		F53-06/07
608.6.3 (New)		F54-06/07, F100-07/08
609.3 (New)		F55-06/07
609.3.1	904.11.6.1	F55-06/07
609.3.2	904.11.6.2	F55-06/07
609.3.3	904.11.6.3	F55-06/07, F102-06/07
609.3.3.1 (New)		F102-06/07
Table 609.3.3.1 (New)		F102-06/07
609.3.3.2 (New)		F102-06/07
609.3.3.3 (New)		F102-06/07
609.3.4 (New)		F55-06/07

**CHAPTER 7
FIRE-RESISTANCE RATED CONSTRUCTION**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
701.1		F103-07/08, F294-07/08
701.2 (New)		F104-07/08
703.1		F105-07/08
703.1.2		F59-06/07, F106-07/08
703.1.3 (New)		F59-06/07, F107-07/08
704.1		F294-07/08
Deleted	Table 704.1	F294-07/08

CODE CHANGES RESOURCE COLLECTION C INTERNATIONAL FIRE CODE

**CHAPTER 8
INTERIOR FINISH, DECORATIVE
MATERIALS AND FURNISHINGS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
801.1		F114-07/08
802.1		F65-06/07, F119-07/08
803.1.2		F61-06/07
803.5.1		FS11-06/07
803.6.2		F118-07/08
803.7.3		F62-06/07
803.8 (New)		FS165-07/08
803.9 (New)		F119-07/08
804.1		F63-06/07, F120-07/08, CCC
804.1.1 (New)		F64-06/07
804.2.3		F63-06/07, F121-07/08
804.2.4		F64-06/07, FS11-06/07, CCC
804.3 (New)		F65-06/07
805.1.1.1		F66-06/07, F67-06/07
805.1.2.1		F68-06/07
805.2.1.1		F69-06/07
805.3.1.1		F70-06/07
805.3.1.2		F71-06/07, F125-07/08
805.3.2.1		F72-06/07
805.3.2.2		F71-06/07
805.4 through 805.4.2.3 (New)		F75-06/07, F126-07/08
807.1		F127-07/08
807.1.2		F128-07/08
807.4.2.1		F78-06/07
808.1		F129-07/08

**CHAPTER 9
FIRE PROTECTION SYSTEMS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
902.1		F83-06/07, F84-06/07, FS7-06/07, G13-07/08 F163-07/08 FS80-07/08, G13-07/08
903.2		FS37-06/07, CCC
903.2.1		F85-06/07, E8-07/08

CHAPTER 8 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
903.2.1.1		E10-07/08
903.2.1.2		E10-07/08
903.2.1.3		F132-07/08 E10-07/08
903.2.1.4		F132-07/08, E10-07/08
903.2.2 (New)		G23-07/08
903.2.2.1		G23-07/08
903.2.3	903.2.2	F85-06/07, F133-07/08, E10-07/08
903.2.7	903.2.6	F135-07/08
903.2.9	903.2.8	F136-07/08
903.2.9.1	903.2.8.1	G8-06/07, F136-07/08, G13-07/08
903.2.10	903.2.9	F89-06/07
903.2.11	903.2.10	F138-07/08, CCC
903.2.11.1	903.2.10.1	F90-06/07, G8-06/07
903.2.11.4	903.2.12.1	F138-07/08
903.2.11.5	903.2.12.2	F138-07/08
903.2.11.6	903.2.13	F138-07/08
Table 903.2.11.6	Table 903.2.13	F206-06/07, G131-06/07
Deleted	903.2.13	F206-06/07, CCC
903.3.1		F140-07/08
903.3.1.2.1		F96-06/07
903.3.1.3		F144-07/08
903.3.5.2		G14-07/08
903.4		F99-06/07
903.4.1		F99-06/07 F147-07/08
903.4.3		G14-07/08
903.6.1		F294-07/08
903.6.2 (New)		F154-07/08
904.7		CCC
904.11.6		F55-06/07
904.11.6.1 (New)		F156-07/08
905.3.1		G81-06/07
905.3.3		F104-06/07, F157-07/08
905.3.7		F158-07/08
905.4		F159-07/08
905.11		F294-07/08
Table 906.1		F243-07/08
905.6.2		F105-06/07
906.2		F160-07/08, CCC
906.3 through 906.3.4		CCC
906.9 through 906.9.3		CCC
907 (Reorganization)		F122-06/07

CHAPTER 9 (continued)

CHAPTER 9 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
907.1.1		F122-06/07, F161-07/08
907.1.2 (New)		F161-07/08
907.2		F122-06/07, F162-07/08, F163-07/08
907.2.1		F122-06/07
907.2.1.1		F122-06/07
907.2.2		F122-06/07, G23-07/08
907.2.2.1 (New)		G23-07/08
907.2.3		F122-06/07, CCC
907.2.4		F122-06/07
907.2.5		F164-07/08
907.2.6		F122-06/07, F164-07/08, F165-07/08
907.2.6.1		F122-06/07
907.2.6.1.1 (New)		F122-06/07
907.2.6.2		F122-06/07
907.2.6.3		F163-07/08
907.2.6.3.1		F122-06/07
907.2.6.3.2		F122-06/07
907.2.6.3.3		F122-06/07, F164-07/08
907.2.7		F122-06/07
907.2.7.1		F122-06/07, F164-07/08
907.2.8		F122-06/07
907.2.8.1		F122-06/07
907.2.8.2		F122-06/07, F163-07/08
907.2.8.3		F122-06/07
907.2.9		F122-06/07
907.2.9.1 (New)		F122-06/07, F166-07/08
907.2.9.2 (New)		F122-06/07
907.2.10 through 907.2.10.3 (New)		F167-07/08
907.2.11	907.2.10	F122-06/07, F167-07/08
907.2.11.1	907.2.10.1	F122-06/07, F167-07/08
907.2.11.2	907.2.10.2	F122-06/07, 907.2.10.1.3 F167-07/08, CCC
907.2.11.3	907.2.10.3	F122-06/07
907.2.11.4	907.2.10.4	F122-06/07
907.2.12	907.2.11	F122-06/07, F163-07/08
907.2.12.2	907.2.11.2	F122-06/07, F167-07/08, CCC

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
907.2.12.3	907.2.11.3	F122-06/07, F167-07/08
907.2.13	907.2.12	F122-06/07, F163-07/08, F168-07/08 G14-07/08, CCC
907.2.13.1	907.2.12.1	F122-06/07, F163-07/08, F169-07/08
907.2.13.1.1	907.2.12.1	F122-06/07, F169-07/08
907.2.13.1.2	907.2.12.1	F169-07/08
907.2.13.2	907.2.12.2	F87-07/08, F164-07/08
907.2.14	907.2.13	F122-06/07, F163-07/08
907.2.15	907.2.14	F122-06/07, F163-07/08
907.2.16	907.2.15	F122-06/07
907.2.18	907.2.17	F122-06/07, F163-07/08
907.2.18.2	907.2.17.2	F122-06/07
907.2.19	907.2.18	F122-06/07, E8-07/08
907.4.1	907.12	F120-06/07
Deleted	907.2.18.1	F172-07/08
907.2.20	907.2.19.1	F122-06/07
907.2.21	907.2.20	F122-06/07
907.2.22	907.2.21	F122-06/07, F173-07/08
907.2.23	907.2.22	F122-06/07, F174-07/08
907.3		F122-06/07, F175-07/08, F294-07/08
4603.6.1 through	907.3.1 through	
4603.7.3	907.3.4.3	F122-06/07, F167-07/08, F175-07/08, F176-07/08, F177-07/08, F178-07/08, F294-07/08
907.4	907.11	F122-06/07
907.4.1	907.12	F122-06/07, F179-07/08
907.4.2	907.2.15	F122-06/07
907.4.3 through 907.5.1 (New)		F122-06/07
907.5.2	907.4	F122-06/07
907.5.2.5	907.4.5	F122-06/07
907.5.3 (New)		F122-06/07, F180-07/08 (p. 438)

CODE CHANGES RESOURCE COLLECTION C INTERNATIONAL FIRE CODE

CHAPTER 9 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
907.5.3.1 (New)		F180-07/08
907.6	907.7	F122-06/07, F164-07/08
907.6.1	907.8	F122-06/07
907.6.2.1.1	907.10.2	F122-06/07, F164-07/08
907.6.2.1.2	907.10.2	F122-06/07, F164-07/08
907.6.2.2	907.2.12.2.3	F122-06/07, 907.2.12.2 F164-07/08
907.6.2.2.3 (New)		F164-07/08
907.6.2.2.4	907.2.1.2	F122-06/07
907.6.2.3	907.10.1	F122-06/07, F118-06/07
907.6.2.3.3	907.10.1.3	F122-06/07
Table 907.6.2.3.3	Table 907.10.1.3	F122-06/07
907.6.2.3.4	907.10.1.4	F122-06/07
907.7 (New)		F122-06/07
907.7.1	907.6	F122-06/07
907.7.2	907.5	F122-06/07
907.7.3.2	907.9.2	F164-07/08
907.7.4	907.13	F164-07/08
907.7.5	907.15	F122-06/07
907.8	907.17	F122-06/07
907.8.1	907.2.10.4	F122-06/07
907.8.2	907.18	F122-06/07
907.9	907.20	F122-06/07
907.9.1	907.20.1	F122-06/07
907.9.2	907.20.2	F122-06/07
907.9.3	907.20.3	F122-06/07
907.9.4	907.20.4	F122-06/07
907.9.4.1	907.20.4.1	F122-06/07
907.9.5	907.20.5	F122-06/07
909.8.1		F123-06/07
909.11		FS37-06/07, F189-07/08
Deleted	910.2.3	E114-07/08
Table 910.3		F194-07/08, F195-07/08
910.3.4		FS37-06/07, F198-07/08
910.3.5		F193-07/08, F199-07/08
910.4.4		FS37-06/07
912.2		F132-06/07
912.2.1		F201-07/08
912.3		F133-06/07
912.3.2 (New)		F133-06/07
912.3.3 (New)		F133-06/07
912.4		F202-07/08
913.2.1 (New)		F203-07/08

CHAPTER 9 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
914.3.1		FS37-06/07
914.3.1.1 (New)		G46-07/08
914.3.1.1.1 (New)		G46-07/08
914.3.1.2 (New)		G46-07/08
914.4.1		FS37-06/07
914.8.2		G25-07/08
Table 914.8.2 (New)		G25-07/08
914.8.2.1 (New)		G25-07/08
914.8.2.2 (New)		G25-07/08

**CHAPTER 10
MEANS OF EGRESS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1002.1		E5-06/07, E6-06/07, E111-06/07, E5-07/08, E7-07/08, E95-07/08, E110-07/08, E144-07/08
1003.2		E8-06/07, E11-07/08, E12-07/08
1003.3.2		E11-06/07
1003.3.3		E11-06/07
1003.3.4		E11-06/07
1003.5		E13-07/08
1005.1		CCC
Deleted	Table 1005.1	E16-06/07, E19-07/08, CCC
1005.2		E18-06/07, E20-07/08
1005.3 (New)		E17-06/07
1006.3		E10-07/08
1007.1		E21-06/07
1007.2		E23-06/07
1007.2.1		E10-07/08
1007.3		E23-06/07, E25-06/07, E28-06/07, E29-06/07, E30-06/07, E29-07/08, E105-07/08
1007.4		E25-06/07, E27-06/07, E28-06/07

CHAPTER 10 (continued)

CHAPTER 10 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1007.6		E23-06/07, E35-06/07
1007.6.2		E23-06/07
1007.6.3		E34-07/08
Deleted	1007.6.5	E35-07/08
Deleted	1007.7	E35-07/08
Deleted	1007.8.3	E35-07/08
1007.8 (New)		E34-07/08
1007.8.1 (New)		E34-07/08
1007.8.2 (New)		E34-07/08
1007.9 (New)		E35-07/08
1007.10 (New)		E35-07/08
1007.11	1007.6.4	E34-07/08, E35-07/08
1008.1.1.1		E40-06/07
1008.1.2		E41-06/07, E43-06/07, E39-07/08
1008.1.3	1008.1.2	E43-06/07
1008.1.3.1	1008.1.2	E43-06/07
1008.1.4.1	1008.1.3.1	E44-06/07
1008.1.4.4	1008.1.3.4	E41-07/08
1008.1.9.3	1008.1.8.3	E47-06/07
1008.1.9.4	1008.1.8.4	E45-07/08, E46-07/08, E47-07/08
1008.1.9.5.1 (New)		E48-07/08
1008.1.9.6 (New)		E51-07/08
1008.1.9.8 (New)		E52-06/07
1008.1.9.9 (New)		E52-07/08
1008.1.10	1008.1.9	E53-07/08, E54-07/08, E55-07/08
1008.1.10.1 (New)		E53-07/08
1008.1.10.2 (New)		E53-07/08
1009.2		E57-07/08
1009.3 (New)		E58-07/08
1009.4 (New)		E60-07/08
1009.4.1 (New)		E60-07/08
1009.4.2	1009.3	E58-07/08, E60-07/08, E62-07/08, E74-07/08
1009.4.3	1009.3.1	E60-07/08
1009.4.4	1009.3.2	E58-07/08
1009.4.5	1009.3.3	E63-06/07, E64-07/08, E66-07/08, E67-07/08
1009.5	1009.4	E64-06/07
1009.6.1	1009.5.1	E65-06/07

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1009.7	1009.6	E68-07/08
1009.9	1009.8	E67-06/07
1009.10.2	1009.9.2	E72-07/08
1009.11 (New)		E74-07/08, CCC
1009.12	1009.10	E69-06/07, E70-06/07
1009.13	1009.11	G8-06/07
1009.14 (New)		E76-07/08
1010.2		E152-06/07
1010.5.1		E74-06/07
1010.6.3		E75-06/07
1010.6.4		E75-06/07
1010.8		E69-06/07
1010.9		E77-06/07
1010.9.1		E78-06/07
1011.1		E78-07/08, E79-07/08
1011.3		E139-06/07, E35-07/08
1011.4		E82-06/07, E83-06/07
1012.2		E86-06/07, E74-07/08
1012.3		E88-06/07, CCC
1012.3.1	1012.3	CCC
1012.3.2	1012.3	CCC
1012.4		E89-06/07, E90-06/07
1012.5 (New)		E91-06/07
1012.6	1012.5	E93-06/07, E152-06/07, E74-07/08, E82-07/08, CCC
1013.1		G223-06/07, E85-07/08
1013.1.1 (New)		E85-07/08
1013.2		E99-06/07, E74-07/08, E85-07/08
1013.3		E100-06/07, E74-07/08, E85-07/08
1013.5		E85-07/08
1013.6		E85-07/08
1014.1		E91-07/08
1014.2		G84-06/07, E92-07/08
1014.2.1		E93-07/08
1014.2.2		E104-06/07, E105-6/07
1014.2.3 through 1014.2.4.4	1014.2.2	E105-06/07

CODE CHANGES RESOURCE COLLECTION C INTERNATIONAL FIRE CODE

CHAPTER 10 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1014.2.5 (New)		E96-07/08
1014.2.6	1014.2.2	E105-06/07
1014.2.7 (New)		E106-07/08
1014.3		E107-06/07 E108-06/07, E152-06/07
1015.1		E113-06/07, E115-06/07, E127-07/08
Table 1015.1		E127-07/08
1015.1.1		E113-06/07
1015.5		E101-07/08
1016.1		E122-06/07, E110-07/08
Table 1016.1		E111-07/08, E114-07/08
Deleted	1016.2	E112-07/08, E114-07/08
1017.1 through	1014.4 through	
1017.4.3	1014.4.3.3	E18-06/07, E110-06/07, E111-06/07
1017.2	1014.4.1	E111-06/07
1017.3	1014.4.2	E111-06/07
1017.4	1014.4.3	E111-06/07
1017.4.1	1014.4.3.1	E111-06/07
1017.4.2	1014.4.3.2	E111-06/07
1017.4.3	1014.4.3.3	E111-06/07
1018.2	1017.2	E18-06/07, E121-07/08
1018.3 (New)		E18-07/08, CCC
1018.4	1017.3	E130-06/07
1018.5	1017.4	E122-07/08
1019 (New)		E111-06/07
1019.1 through	1014.5 through	
1019.3	1014.5.2	E111-06/07
1019.2	1014.5.1	E111-06/07
1019.3	1014.5.2	E111-06/07
1020	1018	E111-06/07
1021.1	1019.1	G71-06/07, E111-06/07, E113-06/07, E115-06/07, E122-06/07, E126-07/08
1021.2	1019.2	E113-06/07, E136-06/07, E127-07/08

CHAPTER 10 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Table 1021.2	Table 1019.2	E136-06/07, E127-07/08
1021.1	1019.1	E113-07/08, E115-07/08, E122-06/07, G71-07/08, E110-07/08
1021.2.2	1019.1.2	E134-06/07
1022 Title	1020 Title	CCC
1022.1	1020.1	G8-06/07, E122-06/07, E138-06/07, E155-06/07, E8-07/08, E10-07/08, E129-07/08
1022.2 (New)		E130-07/08
1022.2.1 (New)		E130-07/08
1022.3	1020.1.1	E7-07/08, E130-07/0
1022.4	1020.1.2	E130-07/08, CCC
1022.7	1020.1.5	E10-07/08
1022.8	1020.1.6	E139-06/07, E140-06/07, E130-07/08, E148-07/08
1022.8.1 (New)	1020.1.6.1	E140-06/07, E148-07/08
1022.9	1020.1.7	E8-07/08, E10-07/08, E130-07/08, E134-07/08
1022.9.1	1020.1.7.1	E130-07/08, E134-07/08
1023	1021	E111-06/07
1023.2	1021.2	E18-06/07
1023.3	1021.3	FS37-06/07
1023.4 (New)		E130-07/08
1023.5	1021.4	E7-07/08 (p. 596), E130-07/08 (p. 687), CCC
1024 (New)		E84-06/07, E130-07/08, E145-07/08, E146-07/08, E147-07/08
1024.2 (New)		E147-07/08
1025.1	1022.1	E136-07/08, E138-07/08
1025.2	1022.2	FS37-06/07 E146-06/07

CHAPTER 10 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1025.4	1022.4	E136-07/08
1026.2	1023.2	E147-06/07
1026	1023	E111-06/07
1026.6	1023.6	E10-07/08
1027	1024	E111-06/07
1027.1	1024.1	E150-06/07, E10-07/08, E138-07/08, E140-07/08
1027.2	1022.2	FS37-06/07
1027.5.1		E18-06/07
1028	1025	E111-06/07
1028.1	1025.1	E152-06/07
1028.1.1	1025.1.1	E141-07/08
1028.2	1025.2	E152-06/07
1028.3	1025.3	E152-06/07
1028.4	1025.4	E153-06/07
1028.5	1025.5	E155-06/07
1028.5.1	1025.5.1	E155-06/07
1028.9	1025.9	E152-06/07
1028.10	1025.10	E158-06/07
1028.13	1025.13	E69-06/07
1028.14.2	1025.14.2	E160-06/07
1029	1026	E111-06/07
1030.2 (New)		E19-07/08
Table 1030.2 (New)		E19-07/08
4604	1027	F294-07/08
4604.5	1027.5	E10-07/08, CCC
Table 4604.18.2	Table 1027.17.2	F209-07/08, CCC
4604.19	1027.18	E10-07/08
4604.20	1027.19	E10-07/08

**CHAPTER 11
AVIATION FACILITIES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1103.5		F225-07/08
1106.1		F225-07/08
1106.5.1		F140-06/07

**CHAPTER 12
DRY CLEANING**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1207.1		CCC

**CHAPTER 14
FIRE SAFETY DURING CONSTRUCTION
AND DEMOLITION**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1411.1		G48-07/08
1413.1		F141-06/07
1417.1		F142-06/07

**CHAPTER 15
FLAMMABLE FINISHES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1501.2 (New)		F217-07/08
1504.7		CCC
1506.2		F144-06/07
1506.3		F144-06/07
1507.2		F145-06/07
1507.3		F145-06/07
1507.3.1		F145-06/07
1507.5.1		F145-06/07

**CHAPTER 18
SEMICONDUCTOR FABRICATION FACILITIES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1802.1		F219-07/08
1803.13.2		F147-06/07
1803.14.1		CCC
Deleted	1805.2.3.4	F223-07/08
Table 1805.2.2		F151-06/07, F152-06/07

**CHAPTER 19
LUMBER YARDS AND WOODWORKING FACILITIES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
1904		CCC
1904.3		CCC

**CHAPTER 22
MOTOR FUEL-DISPENSING FACILITIES
AND REPAIR GARAGES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2201.1		F225-07/08
2202.1		F225-07/08, F230-07/08
2204.4.1		F226-07/08

CHAPTER 22 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2205.2.1 (New)		F228-07/08
2205.2.2 (New)		F228-07/08
2206.7		F230-07/08
2206.8 through 2206.8.5 (New)		F230-07/08
2209.3.2.5		F191-06/07
2209.4.1 (New)		F154-06/07
2209.5.1.1 (New)		F156-06/07, F233-07/08
2210.3.4		F226-07/08
2211.7.2		F157-06/07
2211.7.2.1		F157-06/07, F235-07/08

**CHAPTER 23
HIGH-PILED COMBUSTIBLE STORAGE**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2301.1		F237-07/08
2302.1		F240-07/08
2305.6 (New)		F238-07/08
2306.6.1.1		F90-06/07
2308.4		F237-07/08
2309.4 (New)		F240-07/08
2310.1		F237-07/08

**CHAPTER 24
TENTS, CANOPIES AND OTHER
MEMBRANE STRUCTURES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2401.1		F161-06/07, F243-07/08
2402.1		F243-07/08
2403.1		F243-07/08
2403.2		F243-07/08
2403.5		F243-07/08
2403.6		F243-07/08
2403.8		F243-07/08
2403.8.2		F243-07/08
2403.8.4 (New)		F241-07/08
2403.8.6	2403.8.5	F243-07/08
2403.9		F243-07/08
2403.11		F243-07/08
2403.12		F243-07/08
Table 2403.12.2		F243-07/08
2403.12.6.1		F160-06/07, F242-07/08
2404 (Section title)		F243-07/08

CHAPTER 24 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2404.1		F161-07/08, F243-07/08
2404.2 through 2404.4		F243-07/08
2404.5		F162-06/07, F243-07/08
2403.8.4 (New)		F241-07/08
2404.10		F243-07/08
2404.11		F164-06/07
2404.15.2		F243-07/08
2404.15.5		F243-07/08
2405.15.6		F243-07/08
2404.16.2		F243-07/08
2404.16.3		F243-07/08
2404.17.2		F243-07/08
2404.17.3		F243-07/08
2404.18		F243-07/08
2404.18.2		F243-07/08
2404.18.5		F243-07/08
2404.19		F243-07/08
2404.20		F243-07/08, CCC
2404.20.1 (New)		CCC
2404.20.2 (New)		CCC
2404.21		F162-06/07, F243-07/08
2404.22		F162-06/07, F243-07/08

**CHAPTER 25
TIRE REBUILDING AND TIRE STORAGE**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2501.1		F237-07/08
2502.2		F244-07/08
2506.1		F294-07/08

**CHAPTER 26
WELDING AND OTHER HOT WORK**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2605.2.1 (New)		F165-06/07
2605.2.1.1 (New)		F165-06/07
2605.4		F208-06/07

**CHAPTER 27
HAZARDOUS MATERIALS GENERAL PROVISIONS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2701.2.2.1		F245-07/08
2701.5.1		F246-07/08
2701.5.2		F246-07/08

CHAPTER 27 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
2702.1		F245-07/08
Table 2703.1.1(1)		F46-06/07, F168-06/07, F169-06/07, F247-07/08 (p. 492), CCC
Table 2703.1.1(2)		F168-06/07, F169-06/07,
Table 2703.1.1(3)		F169-06/07, F247-07/08
Table 2703.1.1(4)		F169-06/07
2703.2.1		F249-07/08
2703.2.2.1		F219-07/08
2703.2.9		F252-07/08
2703.8.3.4		F73-07/08, FS20-07/08
2703.9.10 (New)		F168-06/07, CCC
2704.7		F171-06/07, F254-07/08
2705.1.11	2705.2.2.1	F231-06/07, F257-07/08

**CHAPTER 30
COMPRESSED GASES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3001.1		F205-06/07
3002.1		F260-07/08
3003.2		F208-06/07
3003.7.11 through 3003.7.11.2 (New)		F260-07/08
3006.2		F173-06/07

**CHAPTER 32
CRYOGENIC FLUIDS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3201.1		F191-06/07, F203-06/07
3203.4.3		F208-06/07
3203.8		F208-06/07
3204.3		F262-07/08
Deleted	3204.3.1	F262-07/08
3204.3.1	3203.6	F262-07/08
3204.3.1.1	3203.6.1	F262-07/08
Table 3204.3.1.1	Table 3203.6.1	F262-07/08
3204.3.1.1.1	3203.6.1.1	F262-07/08
3204.3.1.1.2	3203.6.1.2	F262-07/08
3204.3.1.1.3	3204.3.1.1	F191-06/07, F262-07/08
3204.3.1.1.4	32304.3.1.2	F262-07/08

CHAPTER 32 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3204.3.1.1.5	3204.3.1.3	F262-07/08
3204.3.1.2	3204.3.2	F262-07/08
Deleted	3204.3.2.1	F262-07/08
3204.3.1.2.1	3203.6.2	F262-07/08
Table 3204.3.1.2.1	Table 3203.6.2	F262-07/08
3204.3.1.2.2	3203.6.2.1	F262-07/08
3204.3.1.2.3	3204.3.2.2	F262-07/08
3205.3.1		F262-07/08

**CHAPTER 33
EXPLOSIVES AND FIREWORKS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3301.1		F208-06/07
3301.1.3		F176-06/07, F208-06/07
3301.3		F208-06/07
Table 3301.8.1(3)		F265-07/08
3302.1		F180-06/07, F208-06/07
Table 3304.3		F266-07/08
Table 3304.5.2(3)		F267-07/08
3307.4		F179-06/07
3308.1 through 3308.4		F180-06/07
3308.5.3		F180-06/07
3308.5.4		F180-06/07
3308.5.5		F180-06/07
3308.8		F180-06/07
3308.9		F180-06/07
Deleted	3308.11	F181-06/07
3309 (New)		F268-07/08

**CHAPTER 34
FLAMMABLE AND COMBUSTIBLE LIQUIDS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3403.6.2		F270-07/08
Table 3403.6.2 (New)		F270-07/08
3403.6.2.1		F270-07/08
3404.2.3.2		F271-07/08
3404.2.7.3.3		F271-07/08
3404.2.7.5.2		F271-07/08, F273-07/08
3404.2.7.5.6		F273-07/08
3404.2.7.5.8		F271-07/08
3404.2.8.12		F187-06/07
3404.2.8.17		F187-06/07
3404.2.9.1 (New)		F188-06/07
3404.2.9.2.2	3404.2.9.2	CCC

CODE CHANGES RESOURCE COLLECTION C INTERNATIONAL FIRE CODE

CHAPTER 34 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3404.2.9.5.....	3404.2.9.4	F271-07/08
3404.2.13.1.4.....		F274-07/08
3404.2.15 (New).....		F275-07/08
3404.3.3.9.....		F237-07/08
Table 3404.3.6.3(1)		F276-07/08
Table 3404.3.6.3(2)		F276-07/08
Table 3404.3.6.3(3)		F276-07/08
Tables 3404.3.6.3(4) through 3404.3.6.3(8)		F276-07/08
3405.2.4.....		F277-07/08
3405.2.5.....		F278-07/08
3405.5.1.....		F190-06/07, F279-07/08
3406.5.1.15.....		F208-06/07
3406.5.4.5.....		F281-07/08

**CHAPTER 35
FLAMMABLE GASES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3501.1		F191-06/07, F282-07/08
3502.1		F191-06/07, F194-06/07
3503.1.1.....		F283-07/08, F284-07/08
3504.2.1.1 (New).....		F287-07/08
3506 (New).....		F191-06/07
3506.1 through 3506.3.2.1 (New)		F191-06/07
3506.4	3204.4	F191-06/07
3506.4.1.....	3204.4.1	F191-06/07
3506.4.2.....	3204.4.2	F191-06/07
3506.4.3.....	3204.4.3	F191-06/07
3506.4.4.....	3204.4.4	F191-06/07
3506.4.5.....	3204.4.5	F191-06/07
3205.4.6.....	3204.4.6	F191-06/07
3506.4.7.....	3204.4.7	F191-06/07
3506.4.8.....	3204.5	F191-06/07
3506.4.8.1.....	3204.5.1	F191-06/07
3506.4.8.2.....	3204.5.2	F191-06/07
3506.4.8.3.....	3204.5.3	F191-06/07
3507 (New).....		F194-06/07

**CHAPTER 37
HIGHLY TOXIC AND TOXIC MATERIALS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3704.2.2.7.....		F198-06/07
3704.3.4.....		F289-07/08

CHAPTER 37 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3704.3.4.1.....	3704.3.2.5	F289-07/08
3704.3.4.2.....	3704.3.2.6	F289-07/08
3704.3.4.3.....	3704.3.2.7	F289-07/08
3705.1.....		F200-06/07

**CHAPTER 38
LIQUEFIED PETROLEUM GASES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
3801.3.....		F201-06/07
3802.1.....		F201-06/07
3803.2.1.2.....		F201-06/07
3803.2.2.....		F201-06/07
3804 Title.....		F201-06/07
3804.2.....		F201-06/07
3804.3.....		F201-06/07
3804.3.1.....		F201-06/07
3804.4.....		F201-06/07
3806.2.....		F201-06/07
3806.3.....		F201-06/07
3807.2.....		F201-06/07
3808.1.....		F201-06/07
3809.1 through 3809.6.....		F201-06/07
3809.8.....		F201-06/07
3809.10.1.....		F201-06/07
3809.12.....		F201-06/07
Table 3809.12.....		F201-06/07
3809.13.....		F201-06/07
3810 Title.....		F201-06/07
3810.1.....		F201-06/07
3810.2.....		F201-06/07

**CHAPTER 40
OXIDIZERS, OXIDIZING GASES AND
OXIDIZING CRYOGENIC FLUIDS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Chapter title		F203-06/07
4001.1.....		F203-06/07, F290-07/08
4002.1.....		F174-06/07, F204-06/07, F205-06/07, F291-07/08
4003.1.....		F203-06/07
4003.1.1.....		F203-06/07
4003.1.1.3.....		F283-07/08, F284-07/08
4003.2.....		F203-06/07
4004.1.....		F203-06/07

CHAPTER 40 (continued)

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
4004.2		F203-06/07
4004.2.2.....		F203-06/07
4004.2.2.1 (New).....		F203-06/07
4004.2.4.....		F203-06/07
Table 4004.2.2.....		F203-06/07
4006 (New).....		F205-06/07, F290-07/08

**CHAPTER 41
PYROPHORIC MATERIALS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
4104.1		F206-06/07
4104.2		F206-06/07
4105.3		F206-06/07
Deleted	4106	F206-06/07

**CHAPTER 45
MARINAS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Chapter 45 (New)		F210-06/07
4503.7 (New)		F292-07/08
4504.1		F292-07/08
4504.2		F292-07/08
4504.2.1 (New)		F292-07/08
4504.6 (New)		F292-07/08

**CHAPTER 46
CONSTRUCTION REQUIREMENTS FOR
EXISTING BUILDINGS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Chapter 46 (New)		F294-07/08, E10-07/08, E19-07/08, F154-07/08, F167-07/08, F175-07/08, F176-07/08, F177-07/08, F178-07/08, F206-07/08, F209-07/08, F210-07/08, F211-07/08

**CHAPTER 47
REFERENCED STANDARDS**

ASME	F249-07/08, F270-07/08, F295-07/08
ASTM.....	F207-06/07, E84-06/07, F70-07/08, F118-07/08, F119-07/08, F295-07/08
BHMA	F207-06/07
CGA.....	F206-06/07, F207-06/07, F295-07/08, F303-07/08
DOTn.....	F208-06/07
European Standard.....	F233-07/08
NFPA.....	F207-06/07, F106-07/08, F237-07/08, F295-07/08, E147-07/08
UL.....	F168-06/07, F207-06/07, FS11-06/07, E82-06/07, E83-06/07, E84-06/07, F70-07/08, F235-07/08, F295-07/08, E54-07/08

**APPENDIX B
FIRE-FLOW REQUIREMENTS FOR BUILDINGS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
B105.1		F211-06/07
Table B105.1		F212-06/07

**APPENDIX C
FIRE HYDRANT LOCATIONS AND DISTRIBUTION**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Table C105.1		F213-06/07

**APPENDIX D
FIRE APPARATUS ACCESS ROADS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
D103.1		F67-07/08
D103.5.....		F70-07/08
D105.1		F67-07/08

**APPENDIX E
HAZARD CATEGORIES**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
E102.1.2		F303-07/08
E103.1.3.1		F303-07/08
Deleted	Table E103.1.3.1	F303-07/08

**APPENDIX F
HAZARD RANKING**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Table F101.2		F215-06/07

**APPENDIX H
HAZARDOUS MATERIALS MANAGEMENT PLAN
(HMMP) AND HAZARDOUS MATERIALS
INVENTORY STATEMENT (HMIS) INSTRUCTIONS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Appendix H (New).....		F217-06/07, F246-07/08

**APPENDIX I
FIRE PROTECTION SYSTEMS –
UNSAFE CONDITIONS**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Appendix I (New)		F304-07/08

**APPENDIX J
EMERGENCY RESPONDER RADIO COVERAGE**

2009 IFC	2006 IFC	CODE CHANGE NUMBER(S)
Appendix J.....		F87-07/08

**2006/2007
DOCUMENTATION**



Code Change No: **F1-06/07**

Original Proposal

Section: 102

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

SECTION 102 APPLICABILITY

102.1 Construction and design provisions. (No change to current text)

102.2 Administrative, operational and maintenance provisions. (No change to current text)

102.3 Change of use or occupancy. (No change to current text)

102.4 Application of building code. (No change to current text)

102.5 Historic buildings. (No change to current text)

102.6 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 45 and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer's instructions shall apply.

102.7 Subjects not regulated by this code. (No change to current text)

102.8 Matters not provided for. (No change to current text)

102.9 Conflicting provisions. Where, in a specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

102.10 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

102.11 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family and improve the correlation among the I-Codes through the code development process. In order to ensure that this correlation process will continue in an orderly fashion, it is also anticipated that future code development and maintenance of the administrative provisions of the I-Codes family will be overseen by a single, multi-discipline code development committee.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. The intent of this correlation effort is not to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes. While some proposed text may be "new" because it was judged by the AHC to be necessary to this particular code, it is not new to the I-Code family, since it already exists in one or more of the International Codes. Unless otherwise noted, there are no technical changes being proposed to these sections. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

This proposal focuses on the applicability of the IFC. A section-by-section discussion follows:

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

102.6: This section is being editorially revised to provide an important exception, the source text for which is Section 102.8 of the International Fuel Gas Code and Section 102.4 of the *International Residential Code*.

The proposed exception recognizes the extremely unlikely but possible occurrence of the code requiring or allowing something less restrictive or stringent than the product's listing or manufacturer's instructions. This correlation will provide an added level of safety by recognizing and deferring to the expertise of the manufacturer and the independent testing laboratory process and fill a gap that currently exists in the IFC. The intent is for the highest level of safety to prevail.

A similar correlating proposal has been submitted to the *International Building Code*, *International Existing Building Code*, *International Mechanical Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Energy Conservation Code*, *International Property Maintenance Code*, and *International Wildland-Urban Interface Code*.

102.9: This section is being proposed for revision to provide correlation with the provision in Section 102.1 of the *International Building Code*, *International Residential Code*, and *International Existing Building Code*.

The proposal adds an important provision that deals with instances when there are multiple provisions in the code on the same topic that could be different in technical content from one another. In such an instance, the added text states that the most restrictive of those provisions applies.

102.10: The purpose of this proposed change is to add a needed administrative provision not currently in the IFC, the source text for which is Section 102.2 of the *International Building Code*, *International Residential Code* and *International Existing Building Code* and Section 102.3 of the *International Code Council Electrical Code Administrative Provisions*.

This proposed provision would assist the code official in dealing with situations where other laws enacted by the jurisdiction or the state or federal government may be applicable to a condition that is also governed by a requirement in the code. In such circumstances, the requirements of the code would be in addition to that other law that is still in effect, although the code official may not be responsible for its enforcement.

A similar correlating proposal has also been submitted to the *International Mechanical Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Fuel Gas Code*, *International Energy Conservation Code*, *International Property Maintenance Code* and *International Wildland-Urban Interface Code*.

102.11: The purpose of this proposed change is to provide a needed administrative provision not currently in the IFC, the source text for which is Section 102.3 of the *International Building Code*, *International Residential Code* and *International Existing Building Code* and Section 102.5 of the *International Code Council Electrical Code Administrative Provisions*.

This new provision would provide a code application tool for the code official by making it clear that, in a situation where the code makes reference to a chapter or section number or to another code provision without specifically identifying its location in the code, then that referenced section, chapter or provision is in this code and not in a referenced code or standard.

A similar correlating proposal has also been submitted to the *International Private Sewage Disposal Code*, *International Mechanical Code*, *International Plumbing Code*, *International Fuel Gas Code*, *International Property Maintenance Code* and *International Wildland-Urban Interface Code*.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

102.6 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 45 and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply.

~~**Exception:** Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer's instructions shall apply.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The exception would allow the listing or manufacturer's instructions to supercede the code even if they were less restrictive than the code.

Assembly Action:

None

Final Hearing Results

F1-06/07

AM

Code Change No: **F3-06/07**

Original Proposal

Section: 103

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

SECTION 103 DEPARTMENT OF FIRE PREVENTION

103.1 General. (No change to current text)

103.2 Appointment. The fire code official shall be appointed by the chief appointing authority of the jurisdiction; ~~and the fire code official shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority.~~

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the fire code official shall have the authority to appoint a deputy(s) ~~fire code official, other related technical officers, inspectors and other employees.~~ Such employees shall have powers as delegated by the fire code official.

103.4 Liability. The fire code official, ~~member of the board of appeals officer~~ or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance shall not thereby be rendered liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission ~~required or permitted~~ in the discharge of official duties.

103.4.1 Legal defense. (No change to current text)

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family and improve the correlation among the I-Codes through the code development process. In order to ensure that this correlation process will continue in an orderly fashion, it is also anticipated that future code development and maintenance of the administrative provisions of the I-Codes family will be overseen by a single, multi-discipline code development committee.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. The intent of this correlation effort is not to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes. While some proposed text may be "new" because it was judged by the AHC to be necessary to this particular code, it is not new to the I-Code family, since it already exists in one or more of the International Codes. Unless otherwise noted, there are no technical changes being proposed to these sections.

This proposal focuses on the Department of Fire Prevention. A section-by-section discussion follows:

103.2: The purpose of this change is to provide correlation with current Section 103.2 of the *International Building Code*, *International Residential Code* and *International Existing Building Code*, and Section 301.2 of the *International Code Council Electrical Code Administrative Provisions*.

The AHC felt that text relating to the removal of the code official should be deleted because it is a local personnel procedural matter that is outside the scope of the code. Removal from office is not usually associated with an administrative code chapter, but is more frequently found in state statute, a union contract or civil service law.

A similar correlating proposal has also been submitted to the *International Mechanical Code*, *International Plumbing Code*, *International Property Maintenance Code*, *International Zoning Code*, *International Wildland-Urban Interface Code*, *International Fuel Gas Code*.

103.3: The purpose of this proposed change is to provide correlation with Section 103.3 of the *International Building Code*, *International Residential Code* and *International Existing Building Code*, and Section 301.3 of the *International Code Council Electrical Code Administrative Provisions*.

The new text provides the code official with an important administrative tool in assigning personnel to assist with the administration and enforcement of the code within the department.

A similar correlating proposal has also been submitted to the *International Mechanical Code*, *International Plumbing Code*, *International Wildland-Urban Interface Code* and *International Private Sewage Disposal Code*.

103.4: The purpose of this proposed change is to provide correlation with Section 104.8 of the *International Building Code*, *International Residential Code*, *International Existing Building Code*, the texts of which the AHC felt provide a more complete and logical presentation of the provision. It will also afford important protection to members of the appeals board who typically serve voluntarily and might not personally have the liability protection afforded by the revised text.

A similar correlating proposal has been submitted to the *International Mechanical Code*, *International Plumbing Code*, *International Wildland-Urban Interface Code* and *International Private Sewage Disposal Code*.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

**SECTION 103
DEPARTMENT OF FIRE PREVENTION**

103.1 General. (No change to current text)

103.2 Appointment. The fire code official shall be appointed by the chief appointing authority of the jurisdiction; and the fire code official shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the fire code official shall have the authority to appoint a deputy(s) fire code official, other related technical officers, inspectors and other employees. ~~Such employees shall have powers as delegated by the fire code official.~~

103.4 Liability. The fire code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance shall not thereby be rendered liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties.

103.4.1 Legal defense. (No change to current text)

Committee Reason: The proposal will provide enhanced liability protection, especially to volunteer board of appeals members. The modification reflects the committee's position that current Sections 103.2 and 103.3 are adequate and preferred.

Assembly Action:

None

Final Hearing Results

F3-06/07

AM

Code Change No: F10-06/07

Original Proposal

Sections: 105.6.23, 105.6.31, 308.5, 308.5.1, 202

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

1. Revise as follows:

105.6.23 Hot work operations. An operational permit is required for hot work including, but not limited to:

1. Public exhibitions and demonstrations where hot work is conducted.
2. Use of portable hot work equipment inside a structure.

Exception: Work that is conducted under a construction permit.

3. Fixed-site hot work equipment such as welding booths.
4. Hot work conducted within a ~~hazardous fire~~ wildfire risk area.
5. Application of roof coverings with the use of an open-flame device.
6. When approved, the fire code official shall issue a permit to carry out a Hot Work Program. This program allows approved personnel to regulate their facility's hot work operations. The approved personnel shall be trained in the fire safety aspects denoted in this chapter and shall be responsible for issuing permits requiring compliance with the requirements found in Chapter 26. These permits shall be issued only to their employees or hot work operations under their supervision.

105.6.31 Open flames and torches. An operational permit is required to remove paint with a torch; or to use a torch or open-flame device in a ~~hazardous fire~~ wildfire risk area.

308.5 Open-flame devices. Torches and other devices, machines or processes liable to start or cause fire shall not be operated or used in or upon ~~hazardous fire~~ wildfire risk areas, except by a permit in accordance with Section 105.6 secured from the fire code official.

Exception: Use within inhabited premises or designated campsites which are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

308.5.1 Signals and markers. Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or upon ~~hazardous fire~~ wildfire risk areas.

Exception: The proper use of fusees at the scenes of emergencies or as required by standard railroad operating procedures.

2. Add new definition as follows:

**SECTION 202
GENERAL DEFINITIONS**

WILDFIRE RISK AREA. Land which is covered with grass, grain, brush or forest, whether privately or publicly owned, which is so situated or is of such inaccessible location that a fire originating upon it would present an abnormally difficult job of suppression or would result in great or unusual damage through fire or such areas designated by the fire code official.

Reason: Clarifies the application of the code by reflecting the intent of the legacy code that served as the source of these requirements (UFC 97 edition Section 209). Also eliminates confusion with the term hazardous fire area and fire area.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides a more appropriate term with a definition and clarifies the intent of the code.

Assembly Action:

None

Final Hearing Results

F10-06/07

AS

Code Change No: F14-06/07

Original Proposal

Sections: 106.2.1 (New), 106.2.2 (New)

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Add new text as follows:

106.2.1 Inspection requests. It shall be the duty of the holder of the permit or their duly authorized agent to notify the fire code official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

106.2.2 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the fire code official. The fire code official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the fire code official.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes. In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family and improve the correlation among the I-Codes through the code development process. In order to ensure that this correlation process will continue in an orderly fashion, it is also anticipated that future code development and maintenance of the administrative provisions of the I-Codes family will be overseen by a single, multi-discipline code development committee.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. The intent of this correlation effort is not to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes. While some proposed text may be "new" because it was judged by the AHC to be necessary to this particular code, it is not new to the I-Code family, since it already exists in one or more of the International Codes. Unless otherwise noted, there are no technical changes being proposed to these sections. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

This proposal focuses on improved inspection requirements. A section-by-section discussion follows:

106.2.1: The purpose of this proposed change is to provide a needed administrative provision not currently in the IWUIC, the source text for which is Section 109.5 of the *International Building Code* and *International Existing Building Code*, Section 109.3 of the *International Residential Code* and Section 706.2 of the *International Code Council Electrical Code Administrative Provisions*.

This section would provide the code official with a useful administrative tool that would make it clear that it is the responsibility of the permit holder to arrange for the required inspections when completed work is ready, thus providing sufficient time for the code official to schedule an inspection visit. It also establishes the responsibility for keeping work open for inspection and providing all means needed to accomplish the inspection.

A similar correlating proposal has also been submitted to the *International Fire Code*, *International Fuel Gas Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, and *International Mechanical Code*.

106.2.2: The purpose of this proposed change is to provide a needed administrative provision not currently in the IWUIC, the source text for which is Section 109.6 of the *International Building Code* and *International Existing Building Code*, Section 109.4 of the *International Residential Code* and Section 702.1.8 of the *International Code Council Electrical Code Administrative Provisions*.

This section would provide the code official with a useful administrative tool that would enhance the code official's control over projects by establishing that work cannot progress beyond the point of a required inspection without the code official's approval and that any item not approved cannot be concealed until it has been corrected and approved by the code official.

A similar correlating proposal has also been submitted to the *International Fire Code*, *International Fuel Gas Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, and *International Mechanical Code*.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: If this code change is approved, the final number of this new section will be correlated with all other approved code changes affecting Section 106 of this code.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement and for consistency with the action on WUIC9-06/07 that includes the text proposed here. The added text will reflect current practice.

Assembly Action:

None

Final Hearing Results

F14-06/07

AS

Code Change No: **F15-06/07**

Original Proposal

Section: 106.3

Proponent: Lawrence Brown, CBO. National Association of Home Builders

Revise as follows:

106.3 Concealed work. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Whenever any installation subject to inspection prior to use is covered or concealed without having first been inspected, the fire code official shall have the authority to require that such work be exposed for inspection. Neither the fire code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

Reason: The added text is from Sections 109.1 and 109.6 of the IBC. The added text provides a more complete provision related to work that may be concealed.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will improve the regulations on premature concealment of work requiring inspection.

Assembly Action:

None

Final Hearing Results

F15-06/07

AS

Code Change No: **F20-06/07**

Original Proposal

Section: 112 (New)

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Add new text as follows:

SECTION 112 FEES

112.1 Fees. A permit shall not be issued until the fees have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

112.2 Schedule of permit fees. A fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.

112.3 Work commencing before permit issuance. Any person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be subject to an additional fee established by the fire code official, which shall be in addition to the required permit fees.

112.4 Related fees. The payment of the fee for the construction, alteration, removal, or demolition of work done in connection to or concurrently with the work or activity authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law

112.5 Refunds. The fire code official is authorized to establish a refund policy.

Reason: Consistency and coordination among the I-Codes is one of the cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established the Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in each code in the International Codes family and improve the correlation among the I-Codes through the code development process. In order to ensure that this correlation process will continue in an orderly fashion, it is also anticipated that future code development and maintenance of the administrative provisions of the I-Codes family will be overseen by a single, multi-discipline code development committee.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes using existing I-Code texts, as noted. The intent of this correlation effort is not to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes. While some proposed text may be "new" because it was judged by the AHC to be necessary to this particular code, it is not new to the I-Code family, since it already exists in one or more of the International Codes. Unless otherwise noted, there are no technical changes being proposed to these sections. A comparative matrix of current I-Codes Chapter 1 text may be found on the ICC website at www.iccsafe.org/cs/cc/admin/index.html.

This proposal focuses on proposed permit fee provisions in the IFC. The purpose of this proposed change is to provide needed administrative provisions not currently in the IFC, the source text for which is Section 108 of the *International Building Code*, *International Existing Building Code* and *International Residential Code*. A section-by-section discussion follows:

112.1: This section requires that all fees be paid prior to permit issuance or release of an amendment to a permit. Since some or all of the enforcement department operations are usually intended to be supported by fees paid by the user of department services, it is important that these fees are received prior to the department incurring any expense.

112.2: This section authorizes the establishment of a schedule of fees by the jurisdiction. The fees are usually established by law, such as in an ordinance adopting the code, a separate ordinance or legally promulgated regulation, as required by state or local law and are often based on a valuation of the work to be performed.

112.3: The department will incur certain costs (i.e., inspection time and administrative) when investigating and citing a person who has commenced work without having obtained a permit. This section authorizes the fire code official to recover those costs by establishing a fee, in addition to that collected when the required permit is issued, to be imposed on the responsible party. In a slight modification from the source text, note that activities and operations regulated by the code have been included

112.4: This provision would provide the fire code official and the jurisdiction with a useful administrative tool that makes it clear that all applicable fees of the jurisdiction for regulated work that is done collateral to the work being done under this code's permit, such as sewer connections, water taps, driveways, signs, etc.) must be paid.

112.5: This section authorizes the fire code official to establish a policy to regulate the refund of fees, which may be full or partial, typically resulting from the revocation, abandonment or discontinuance of a building project for which a permit has been issued and fees have been collected.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: If this code change is approved, the final number of this new section will be correlated with all other approved code changes affecting Chapter 1 of this code.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

**SECTION 112
FEES**

112.1 Fees. A permit shall not be issued until the fees have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

112.2 Schedule of permit fees. A fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.

112.3 Work commencing before permit issuance. Any person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be subject to an additional fee established by the applicable governing authority ~~fire code official~~, which shall be in addition to the required permit fees.

112.4 Related fees. The payment of the fee for the construction, alteration, removal, or demolition of work done in connection to or concurrently with the work or activity authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law

112.5 Refunds. The applicable governing authority ~~fire code official~~ is authorized to establish a refund policy.

Committee Reason: For consistency with the action on WUIC15-06/07. The proposal provides a means for the fire code official to recoup the costs of departmental operations. The modification will correlate the terminology of Sections 112.3 and 112.5 with Section 112.2.

Assembly Action:

None

Final Hearing Results

F20-06/07

AM

Code Change No: F23-06/07

Original Proposal

Section: 201.4

Proponent: Steven L. Stimmel, Captain, Iowa City Fire Department, representing himself

Revise as follows:

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies. ~~Webster's Third New International Dictionary of the English Language, Unabridged~~ Merriam Webster's Collegiate Dictionary, 11th Edition, shall be considered as providing ordinarily accepted meanings.

Reason: *Webster's Third New International Dictionary of the English Language, Unabridged* is difficult to find and cost prohibitive to purchase. Even in a community that houses a major university, this dictionary is unavailable at any local bookstore. If special ordered, it costs over \$160.00. *Merriam Webster's Collegiate Dictionary, 11th Edition* is available at most bookstores for under \$30.00 hardcover and under \$10.00 on CD-ROM.

The National Fire Protection Association recognizes *Merriam Webster's Collegiate Dictionary, 11th Edition* as the official dictionary of NFPA 1, Uniform Fire Code, 2006 Edition. I believe it is in everyone's best interest to have the IFC and NFPA utilize the same dictionary.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. Any dictionary referenced in the code should be readily available.

Assembly Action:

None

Final Hearing Results

F23-06/07

AS

Code Change No: F28-06/07

Original Proposal

Sections: 308.3.1, 308.3.1.1

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

308.3.1 Open-flame cooking devices. Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.
3. ~~308.3.1.1 Liquefied petroleum gas fueled cooking devices.~~ LP-gas ~~burners~~ cooking devices having LP gas container with a water capacity not greater than 2.5 pounds [nominal 1 pound (0.454 kg) LP-gas capacity] shall not be located on combustible balconies or within 10 feet (3048 mm) of combustible construction.

~~Exception: One- and two-family dwellings.~~

Reason: LP-gas-fueled cooking devices are included in the “open-flame cooking devices” regulated by Section 308.3.1. It has been pointed out that Section 308.3.1.1 is essentially an exception to the prohibition contained in Section 308.3.1 and that the code should be revised to clarify that fact. Also, the term “burners” should be revised for consistent terminology with the charging paragraph.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal clarifies the intent and application of the section and eliminates redundancy.

Assembly Action:

None

Final Hearing Results

F28-06/07

AS

Code Change No: F29-06/07

Original Proposal

Section: 311.2.1

Proponent: Michael G. Kraft, Division of State Fire Marshal, State of Ohio

Revise as follows:

311.2.1 Security. Exterior openings and interior openings accessible to other tenants or unauthorized persons shall be boarded, locked, blocked or otherwise protected to prevent entry by unauthorized individuals. The fire code official is authorized to placard, post signs, erect barrier tape, or take similar measures as necessary to secure public safety.

Reason: The purpose of this code change is to specifically authorize the fire code official to post “keep out” type signs when necessary in these situations. This proposed new text simply memorializes the action that many fire service personnel would believe an appropriate tool in this circumstance.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent’s reason statement. The proposal clarifies the fire code official’s authority in posting buildings.

Assembly Action:

None

Final Hearing Results

F29-06/07

AS

Code Change No: F30-06/07

Original Proposal

Section: 311.5**Proponent:** Gregory G. Victor, Fire Department, Glendale, AZ**Revise as follows:**

311.5 Placards. Any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section 110 of this code relating to structural or interior hazards shall be marked as required by Sections 311.5.1 through 311.5.5.

Reason: To establish guidance for the reader to determine when the placards should be required on buildings.

It was the intent of the original proponent to limit this section to vacant buildings. The original reason for this proposal read: "This addition to the IFC will put the codes in compliance with the FEMA Initiative on vacant structures and will make fire department operations much safer as this will allow them to do inspections of such properties and use a nationally recognized marking system to identify the structural stability of vacant buildings thus preventing another Worcester tragedy".

However the section references Section 110, which goes way beyond vacant and abandoned buildings. Section 110 covers everything from equipment problems to fire hazards to egress issues and beyond. As written this section will require the listed markings on occupied buildings. One only has to read Section 110 to see where this proposal would be very difficult to administer as written.

This proposal adds language in Section 311.5 that limits the use of these markings to abandoned or vacant buildings only. This proposal improves the code by setting appropriate guidelines for when placarding should be required and that this improves this section and in fact, brings it in line with the original FEMA proposal, which was the goal of the original proponents.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the intent of the code by focusing on structural and interior hazards that may not otherwise be readily apparent to arriving fire companies.

Assembly Action:**None**

Final Hearing Results

F30-06/07

AS

Code Change No: F31-06/07

Original Proposal

Section: 311.5.2**Proponent:** Lawrence Brown, CBO, National Association of Home Builders**Revise as follows:**

311.5.2 Placard size and color. Placards shall be 24 inches by 24 inches (610 mm by 610 mm) minimum in size with a red background, white reflective stripes and a white reflective border. The stripes and border shall have a 2-inch (51 mm) minimum stroke.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The size of these placards, and its stripes and border should not be exact. A minimum size is more appropriate and enforceable.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides needed clarification of the code's minimum size requirements for sign and lettering.

Assembly Action:

None

Final Hearing Results

F31-06/07

AS

Code Change No: F34-06/07

Original Proposal

Section: 401.3

Proponent: Greg Rogers, South Kitsap Fire & Rescue, ICC Joint Fire Service Review Committee

Revise as follows:

401.3 Emergency forces responder notification. Notification of emergency responders shall be in accordance with Sections 401.3.1 through 401.3.3

401.3.1 Fire events. In the event an unwanted fire occurs on a property, the owner or occupant shall immediately report such condition to the fire department. ~~Building employees and tenants shall implement the appropriate emergency plans and procedures.~~

401.3.2 Alarm activations. Upon activation of a fire alarm signal, employees or staff shall immediately notify the fire department.

401.3.3 Delayed notification. ~~No~~ A person shall not, by verbal or written directive, require any delay in the reporting of a fire to the fire department.

401.4 Required plan implementation. In the event an unwanted fire is detected in a building or a fire alarm activates, the emergency plan shall be implemented.

~~401.3.4~~ **401.5 Making false report.** ~~It shall be unlawful for~~ A person ~~to~~ shall not give, signal, or transmit a false alarm.

~~401.3.3~~ **401.6 Emergency evacuation drills.** ~~Nothing in this section shall prohibit~~ The sounding of a fire alarm signal ~~or~~ and the carrying out of an emergency evacuation drill in accordance with the provisions of Section 405 shall be allowed.

(Renumber subsequent sections)

Reason: The current code does not direct occupants to leave in the event of an unwanted fire. Fire code language is needed to prohibit delayed evacuation. This code change also clarifies the existing IFC language and the intent of the code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the intent of the section and relocates an emergency plan action item to a more appropriate text location.

Assembly Action:**None**

Final Hearing Results

F34-06/07

AS

Code Change No: F35-06/07

Original Proposal

Section: 401.3.4 (New)**Proponent:** Robert J. Davidson, Davidson Code Concepts, LLC, representing himself**Add new text as follows:**

401.3.4 Unplanned evacuation. Evacuations made necessary by the unplanned activation of a fire alarm system or by any other emergency shall not be substituted for a required evacuation drill.

Reason: Evacuation drills are intended to provide for an assessment of the adequacy of an emergency action plan and the response of the building occupants. Occupants may or may not be forewarned of a pending drill depending on the circumstances, but, the staff having the responsibility for conducting the drill do prepare for drills and a key aspect is having monitors in place to assess individual performance. An unplanned evacuation does not allow for effective monitoring or performance and should not be counted towards as a required drill.

The proposed text makes it clear the unplanned evacuations will not be applied to the number of drills required.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal reaffirms that the required number of evacuation drills must be conducted, regardless of actual evacuations that may occur, to reinforce the evaluation of procedures and performance.

Assembly Action:**None**

Final Hearing Results

F35-06/07

AS

Code Change No: F36-06/07

Original Proposal

Section: 404.5.1 (New)

Proponent: Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

Add new text as follows:

404.5.1 Distribution. The fire safety and evacuation plans shall be distributed to the tenants and building service employees by the owner or owner's agent. Tenants shall distribute to their employees applicable parts of the fire safety plan affecting the employees' actions in the event of a fire or other emergency.

Reason: Fire safety and evacuation plans are only effective when all building occupants have been informed of the contents of the plan. In the case of a multi-tenant building the plan must address the individual tenant spaces and distribution to all effected occupants is important for a coordinated response to an emergency.

The proposed text provides for the buildings owner or the owner's agent to distribute the plan to all tenants and building service employees. Since the owner and or agent of the owner usually do not have direct access to the tenants' employees, the individual tenants would then have the responsibility to distribute the applicable portion of the plan to their employees.

This provides for a wider distribution of the responsibility to plan for emergencies and to follow the requirements of the plan.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will increase the likelihood of a successful evacuation plan by requiring distribution to all occupants.

Assembly Action:

None

Final Hearing Results

F36-06/07

AS

Code Change No: F38-06/07

Original Proposal

Section: 408.11.1

Proponent: Ed Donoghue, Edward A. Donoghue Associates, Inc., representing National Elevator Industry, Inc.

Revise as follows:

408.11.1 Lease plan. A lease plan shall be prepared for each covered mall building. The plan shall include the following information in addition to that required by Section 404.3.2:

1. Each occupancy, including identification of tenant.
2. Exits from each tenant space.

3. Fire protection features, including the following:
 - 3.1. Fire department connections.
 - 3.2. Fire command center.
 - 3.3. Smoke management system controls.
 - 3.4. Elevators ~~and~~, elevator machine rooms and controls.
 - 3.5. Hose valves outlets.
 - 3.6. Sprinkler and standpipe control valves.
 - 3.7. Automatic fire-extinguishing system areas.
 - 3.8. Automatic fire detector zones.
 - 3.9. Fire barriers.

Reason: This change recognizes situations where the elevator machine room may be remote from the elevator itself. In some cases the elevator machine room is remote from the elevator itself therefore its location should be highlighted in such plans.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the intent of the code regarding the protected areas to be included in the lease plan.

Assembly Action:

None

Final Hearing Results

F38-06/07

AS

Code Change No: F40-06/07

Original Proposal

Sections: 505.1 (IBC [F] 501.2); IRC R321.1

Proponent: Paul Hayward, City of Farmington, UT, representing Bonneville Chapter ICC

THIS PROPOSAL IS ON THE AGENDA OF THE IFC AND THE IRC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFC (IBC)

Delete and substitute as follows:

~~505.1 Address numbers.~~ ~~New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numerals or alphabet letters. Numbers shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of 0.5 inch (12.7 mm).~~

505.1 Address identification. New and existing buildings shall be provided with approved address numbers or letters. Each character shall be a minimum 4 inches (102 mm) high and a minimum of 0.5 inch (12.7 mm) wide. They shall be installed on a contrasting background and be plainly visible from the street or road fronting the property. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure.

PART II– IRC

R321.1 Premises identification. Approved numbers or addresses shall be provided for all new buildings in such a position as to be plainly visible and legible from the street or road fronting the property.

R321.1 Address identification. New buildings shall be provided with approved address numbers or letters. Each character shall be a minimum 4 inches (102 mm) high and a minimum of 0.5 inch (12.7 mm) wide. They shall be installed on a contrasting background and be plainly visible from the street or road fronting the property. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure.

Reason: The purpose of this change is to provide consistency among the International Building, Fire and Residential Codes. All three codes have different requirements regarding this regulation. Identifying buildings during an emergency is greatly aided by the proper placement of address identification. In emergencies, seconds may mean the difference between life and death. In other than emergencies, convenience for persons attempting to locate a business, residence, public agency or other would seem to be a minimum requirement for a building. Sometimes one just can't locate a place without it being identified.

Many jurisdictions have ordinances requiring identification. The requirement is not consistent, nor is it uniform. Some federal agencies require identification on the mail box, but when that is located at the end of a private lane, with several structures located along the lane, it is impossible to determine the correct building from the group of mail boxes. When using mutual aid, emergency responders are at a distinct disadvantage. Their response becomes a true matter of life-safety. Some of the elements of this proposal have been submitted in prior cycles. It has gone before different committees and been rejected for a variety of reasons. A consequence of that action has resulted in an effort to have the proposed wording identical in all three codes. Additionally, provisions not previously considered, such as the height requirement, will now be uniform. Past committee objections have sometimes centered on wording that was not proposed for change, but was to remain as existing text, making the proponent wonder why it was not approved. In order to avoid a similar outcome, this is now a comprehensive approach to repair and maintain a very important requirement, but make it the same in all three codes. This will make it easier for users of the code and provide safety and consistency.

Bibliography: Please see G81-04/05

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IFC

Committee Action:

Disapproved

Committee Reason: The proposal would delete the current "approved building identification" text that provides enforcement flexibility. The intent of the last sentence of the proposed text is unclear. The proposal should also deal with multiple buildings and common driveways for multiple buildings.

Assembly Action:

None

PART II – IRC

Committee Action:

Disapproved

Committee Reason: There was no evidence brought forward to justify the code change proposal. It is important to preserve the consistency that currently exists between the IFC and the IRC as it relates to address identification and the size of the lettering.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

Paul Hayward, Farmington City, Utah, representing Bonneville Chapter ICC, requests Approval as Modified by this public comment for Part I.

Replace proposal with the following:

[F] 505.1 Address numbers. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 0.5 inch (12.7mm). Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

Commenter's Reason: The Committee had several objections to the original proposal. Those concerns have been addressed by retreating back to the original language in the existing IFC and IBC and simply adding the last sentence. There is a problem with buildings that have address numbers that cannot be seen from the public way. Section 505.2 in the Fire Code requires street signs to assist emergency personnel when responding to an address. This simply says that if the building cannot be seen from the public way then another identification means should be employed so that the building may be found.

Some of the discussion at the hearing centered around such things as a PUD or a grouping of university buildings. It is possible to post a site map at the entrance of a PUD, similar to the map the US Forrest Service uses at campground, and most universities have some form of building identification for visitors or new faculty, staff and students. There doesn't seem to be a problem with such an approach.

Previous proposals had a requirement that the signs could not be adversely affected by weather. A fire service person objected, stating that there was NO PROBLEM with any of the rest of the proposal (about 3 cycles back). That provision was removed from the subsequent proposals. *If you read carefully the reason given in Part II you will see that there were inconsistent provisions between the three codes---IFC, IBC and IRC.* Since the code sections to the IFC and IBC are now considered by only one committee, some of the reason for the change has disappeared (size consistency), but the reasons for the last sentence still remain.

The problem comes when a building is remote and hidden from view ad there is NO means to identify its location. That's all; very simple, straight forward and a common sense approach to safety.

PLEASE APPROVE this common sense proposal. It will assist the fire service as well as many others.

This item is on the agenda for individual consideration because public comments were submitted for Part II.

Public Comment 2:

Paul Hayward, Farmington City, Utah, representing Bonneville Chapter ICC, requests Approval as Modified by this public comment.

Replace proposal with the following:

R321.1 Address numbers. Buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 0.5 inch (12.7mm). Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

Commenter's Reason: See F40-06/07 Part I for the reason to add the last sentence. Also, this is a very big problem in rural areas where a row of mail boxes identifies all the house-holds on a rural postal route, but gives no clue as to where any one dwelling is located. It's difficult to provide emergency services at the end of the lane next to the mail boxes. Additionally, some folks just want to tack up a piece of cardboard on a tree. The address identification should be a minimum size, stroke, and contrasting color so that it provides the safety contemplated by the code and that is best accomplished by this change.

The fact it must be approved should not provide heartburn to anyone, since that language is already contained in the current and proposed text of the code. This tool will definitely help those seeking to find a remote dwelling, especially in emergencies, when all they have is an address.

If the proposal to Part I is approved, then this change needs to be approved also to promote true consistency.

Final Hearing Results

F40-06/07, Part I

AMPC1

F40-06/07, Part II

AMPC2

Code Change No: F43-06/07

Original Proposal

Sections: 509.1 (IBC [F] 911.1)

Proponent: Ed Donoghue, Edward A. Donoghue Associates, Inc., representing National Elevator Industry, Inc.

Revise as follows:

509.1 Features. Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of 96 square feet (9 m²) with a

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

minimum dimension of 8 feet (2438 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighter’s control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Elevator fire recall switch in accordance with ASME A17.1.
17. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

Reason: Locate switches vital to needs of the fire department in the fire command center. These switches need to be located within the fire command center as required by ASME A17.1.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent’s reason statement. The proposal will provide additional needed information for fire/emergency scene commanders.

Assembly Action:

None

Final Hearing Results

F43-06/07

AS

Code Change No: F44-06/07

Original Proposal

Section: 510.2 (New)

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Add new text as follows:

510.2 Equipment access. Approved access shall be provided and maintained for all fire protection system equipment to permit immediate safe operation and maintenance of such equipment. Storage, trash and other materials or objects shall not be placed or kept in such a manner that would prevent such equipment from being readily accessible.

Reason: Section 510 *Fire Department Access to Equipment* currently contains language in Sec. 510.1 that requires identification of fire protection, detection, control for HVAC systems, sprinkler risers and valves to be identified. That existing language does not address fire department access to equipment, only identification.

The addition of new Sec. 510.2 provides language for the code official to require access to and working space around such fire suppression, protection, and detection system devices and control elements necessary for fire department use. This section further prohibits obstructions of materials or objects that may prevent such equipment from being readily accessible.

Addition of the proposed language in Sec. 510.2 will provide a requirement to maintain accessible those fire appurtenances that was the intent of the Section but not stated.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

510.2 Equipment Access. Approved access shall be provided and maintained for all fire protection ~~system~~ equipment to permit immediate safe operation and maintenance of such equipment. Storage, trash and other materials or objects shall not be placed or kept in such a manner that would prevent such equipment from being readily accessible.

Committee Reason: The proposal will provide a useful enforcement tool in keeping fire protection equipment of all kinds unobstructed and readily available. The modification deletes an unnecessary word.

Assembly Action:

None

Final Hearing Results

F44-06/07

AM

Code Change No: F45-06/07

Original Proposal

Section: 602.1 (New)

Proponent: Ronald Marts, Telcordia Technologies, representing AT&T, SBC, Ameritech, PacBell, Cincinnati Bell, Qwest, Southern New England Telephone

Add new definition as follows:

602.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

LITHIUM-ION BATTERY. A storage battery that consists of lithium ions imbedded in a carbon graphite or nickel metal-oxide substrate. The electrolyte is carbonate mixture or a gelled polymer. The lithium ions are the charge carriers of the battery.

Reason: This new definition was inadvertently omitted from the proposed change accepted in Cincinnati in February 2005 that added lithium-ion batteries to section 608.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Committee Reason: Based on the proponent’s reason statement. The proposal corrects an omission from a previously approved storage battery code change by providing a needed definition covering lithium-ion battery technology.

Assembly Action:

None

Final Hearing Results

F45-06/07

AS

Code Change No: F46-06/07

Original Proposal

Sections: 603.3.2, Table 2703.1.1(1) [IBC Table [F] 307.1(1)]

Proponent: Lynne M. Kilpatrick, Fire Department, City of Seattle, WA

Revise as follows:

603.3.2 Maximum Inside fuel oil storage. Where connected to a fuel-oil piping system, ~~the maximum amount of fuel oil storage a combustable liquid storage system having a maximum capacity of 660 gallons (2498 L) is allowed inside any building in a single control area shall be 660 gallons (2498 L).~~ Where the amount of fuel oil stored inside a building single control area exceeds 660 gallons (2498 L), the storage area shall be in compliance with the *International Building Code* for a Group H-3 Occupancy.

**TABLE 2703.1.1(1) [IBC Table [F] 307.1(1)]
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA
OF HAZARDOUS MATERIALS POSIG A PHYSICAL HAZARD**

- a. through h. (No change to current text)
- i. Inside any building, ~~the maximum capacity of~~ a combustable liquid storage system that is connected to a fuel-oil piping system ~~shall be~~ and having a maximum capacity of 660 gallons shall be allowed on any floor in a single control area provided such system complies with this code. See Section 603.3.2.

(Portions of table and footnotes not shown do not change)

Reason: This proposal clarifies the intent of Section 603.3.2 which is to allow for a generator tank up to 660 gallons inside a building without requiring the tank system to be located in a Group H Occupancy. If the tank system exceeds 660 gallons then the tank system must be confined to a room or area meeting Group H occupancy requirements. The current code text states that the maximum quantity of fuel-oil storage allowed inside any building cannot exceed 660 gallons.

The change to the table clarifies the intent of the code and allows a single generator fuel tank system up to 660 gallons to be installed anywhere in a building without confining the system to a Group H room or area. It should be noted that the proposed footnote allows the tank system to be installed on any floor of the building and thus the maximum allowable quantity reductions noted in Table 2703.8.3.2 do not apply. As written, the current code text states that the maximum quantity of fuel-oil storage allowed inside any building cannot exceed 660 gallons which is quite unrealistic given the need for fuel for backup generators in virtually every newly constructed building. This code change gives relief to small generator fuel systems which currently are required to be confined to Group H Occupancy rooms or areas if the tank system exceeds 120 gallons in unsprinklered buildings or 240 gallons in sprinklered buildings.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal's reason statement mentions generator tanks but the proposal does not. There needs to be better correlation with Table 2703.1.1(1).

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Lynne Kilpatrick, Seattle, Washington Fire Department, requests Approval as Modified by this public comment.

Replace proposal with the following modifications to current text:

1. Revise as follows:

603.3.1 Fuel oil storage in outside, aboveground tanks ~~Maximum outside fuel oil storage above-ground.~~ Where connected to a fuel-oil piping system, the maximum amount of fuel oil storage allowed outside above ground without additional protection shall be 660 gallons (2498 L). The storage of fuel oil above ground in quantities exceeding 660 gallons (2498 L) shall comply with NFPA 31.

2. Delete and substitute as follows:

~~**603.3.2 Maximum inside fuel oil storage.** Where connected to a fuel-oil piping system, the maximum amount of fuel oil storage allowed inside any building shall be 660 gallons (2498 L). Where the amount of fuel oil stored inside a building exceeds 660 gallons (2498 L), the storage area shall be in compliance with the *International Building Code*.~~

603.3.2 Fuel oil storage inside buildings. Fuel oil storage inside buildings shall comply with Sections 603.3.2.1 through 603.3.2.5 or Chapter 34.

603.3.2.1 Quantity limits. One or more fuel-oil storage tanks containing Class II or Class III combustible liquid shall be permitted in a building. The aggregate capacity of all such tanks shall not exceed 660 gallons (2498 L).

Exception: The aggregate capacity limit shall be permitted to be increased to 3,000 gallons (11,356 L) of Class II or Class III liquid for storage in protected aboveground tanks complying with Section 3404.2.9.6, when all of the following conditions are met:

1. The entire 3,000 gallon (11,356 L) quantity shall be stored in protected aboveground tanks.
2. The 3,000 gallon (11,356 L) capacity shall be permitted to be stored in a single tank or multiple smaller tanks, and
3. The tanks shall be located in a room or rooms protected by an automatic sprinkler system complying with Section 903.3.1.1.

603.3.2.2 Restricted use and connection. Tanks installed in accordance with Section 603.3.2 shall be used only to supply fuel oil to fuel-burning or generator equipment installed in accordance with Section 603.3.2.4. Connections between tanks and equipment supplied by such tanks shall be made using closed-piping systems.

603.3.2.3 Applicability of maximum allowable quantity and control area requirements. The quantity of combustible liquid stored in tanks complying with Section 603.3.2 shall not be counted towards the maximum allowable quantity set forth in Table 2703.1.1 (1), and such tanks shall not be required to be located in a control area.

603.3.2.4 Installation. Tanks and piping systems shall be installed and separated from other uses in accordance with IMC Section 915 and IMC Chapter 13, as applicable.

Exception: Protected aboveground tanks complying with Section 3404.2.9.6 shall not be required to be separated from surrounding areas.

603.3.2.5 Tanks in basements. Tanks in basements shall be located not more than two stories below grade plane.

3. Revise table as follows:

**TABLE 2703.1.1(1) [IBC Table [F]307.1(1)]
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA
OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD**

a. through h. (No change to current text)

- i. ~~The maximum allowable quantity shall not apply to fuel oil storage complying with Section 603.3.2. Inside a building, the maximum capacity of a combustible liquid storage system that is connected to fuel-oil piping system shall be 660 gallons provided such system complies with this code.~~

(Portions of table and footnotes not shown remain unchanged)

Commenter's Reason:

1. Title corrected for editorial correlation with the revised section that follows.
2. This public comment responds to issues raised at the Orlando hearing during testimony on the original proposal as modified by a proposed amendment that was distributed and discussed. The proposed revisions resolve a longstanding problem in the IFC involving the apparent conflict between Table 2703.1.1(1), Footnote "i" and Section 603.3.2. The table implies that fuel oil tanks are subject to the MAQ/control area approach, but Section 603.3.2 instead establishes "per building" quantity limits. This revision clarifies that fuel oil tanks covered by 603.3.2 are not subject to the MAQ/control area regulatory scheme.

The recommended revision also tackles a longstanding problem involving the need for more reasonable size limits for tanks in buildings that serve fuel burning equipment and generators. The intent of this section, through its use of the term “fuel oil,” was determined to be related to tanks supplying both fuel oil and generators, and this has been clarified. To address the need for more reasonable quantities, this public comment expands on an idea introduced in the floor modification in Orlando, which recommended increasing permissible quantities when “protected tanks” are used and are located in areas protected by fire sprinklers. Protected tanks represent the highest level of tank construction in widespread use. These tanks have extensive regulations in Chapter 34, and the special UL listing requirements further assure their safety. Included in the special regulations for these tanks are 1) the required ability to survive a 2-hour fire test conducted in accordance with the UL1709 fire exposure protocol, 2) a limitation that all penetrations must be made through the top of the tank (to avoid the risk of a gravity-fed leak that might be associated with a connection below liquid level) and that piping connected to the tank must be provided with anti-siphon controls where needed to prevent a siphon risk, 3) bullet resistance, 4) vehicle impact resistance, and many others. The added safety features more than compensate for the proposed quantity allowance of 3,000 gallons, and by having most of these safety features integral to the tank construction, the level of reliability is very high.

The proposal also correlates the fuel oil equipment requirements in the IFC with applicable requirements in the IMC that are probably often overlooked, and it places a reasonable limit on where tanks can be located in basements.

3. Correlates with Part 2 to clarify that fuel oil tanks installed in accordance with 603.3.2 are not regulated using the MAQ/control area approach.

Final Hearing Results

F46-06/07

AMPC1

Code Change No: F47-06/07

Original Proposal

Sections: 603.4, 603.4.2 (New)

Proponent: Lynne M. Kilpatrick, Fire Department, City of Seattle, WA

1. Revise as follows:

603.4 Portable unvented heaters. Portable unvented fuel fired heating equipment shall be prohibited in occupancies in Groups A, E, I, R-1, R-2, R-3 and R-4.

Exceptions:

1. Listed and approved unvented fuel-fired heaters, including portable outdoor gas-fired heating appliances, in one- and two-family dwellings.
2. Portable outdoor gas-fired heating appliances are allowed in accordance with Section 603.4.2.

2. Add new text as follows:

603.4.2 Portable outdoor gas-fired heating appliances. Portable gas-fired heating appliances located outdoors shall be in accordance with Sections 603.4.2.1 through 603.4.2.3.3.

603.4.2.1 Location. Portable outdoor gas-fired heating appliances shall be located in accordance with Sections 603.4.2.1.1 through 603.4.2.1.4.

603.4.2.1.1 Prohibited locations. The storage or use of portable outdoor gas-fired heating appliances is prohibited where any of the following exist:

1. Inside any occupancy when connected to the fuel gas container.
2. Inside tents, canopies and membrane structures.
3. On exterior balconies in accordance with NFPA 58.

603.4.2.1.2 Clearance to buildings. Portable outdoor gas-fired heating appliances shall be located at least 5 feet from buildings.

603.4.2.1.3 Clearance to combustible materials. Portable outdoor gas-fired heating appliances shall not be located beneath, or closer than 5 feet to combustible overhangs, awnings, sunshades or similar combustible attachments to buildings and combustible decorations.

603.4.2.1.4 Proximity to exits. Portable outdoor gas-fired heating appliances shall not be located within 5 feet of exits or exit discharges.

603.4.2.2 Portable outdoor gas-fired heating appliance installation and operation. Portable outdoor gas-fired heating appliances shall be installed and operated in accordance with Sections 603.4.2.2.1 through 603.4.2.2.4.

603.4.2.2.1 Listing and approval. Only listed and approved heating appliances utilizing a fuel gas container that is integral to the appliance shall be used.

603.4.2.2.2 Installation and maintenance. Heating appliances shall be installed and maintained in accordance with the manufacturer's instructions.

603.4.2.2.3 Tip-over switch. Portable gas-fired heating appliances shall be equipped with a tilt or tip-over switch that automatically shuts off the flow of gas if the appliance is tilted more than 15 degrees from vertical.

603.4.2.2.4 Guard against contact. The heating element or combustion chamber shall be permanently guarded so as to prevent accidental contact by persons or material.

603.4.2.3 Gas containers. Fuel gas containers for portable outdoor gas-fired heating appliances shall comply with Sections 603.4.2.3.1 through 603.4.2.3.4.

603.4.2.3.1 Approved containers. Only approved U.S. DOTn or ASME gas containers shall be used.

603.4.2.3.2 Container replacement. Replacement of gas containers in the heating appliance shall not be conducted while the public is present.

603.4.2.3.3 Container capacity. The maximum individual capacity of gas containers used in connection with portable gas-fired heating appliances shall not exceed 20 pounds.

603.4.2.3.4 Indoor storage prohibited. Gas containers shall not be stored inside as required by the *International Fuel Gas Code*.

Reason: The code currently prohibits the use of portable gas-fired heating appliances in public occupancies. In many jurisdictions LP-gas-fired portable heaters, or patio heaters, are being utilized in outdoor areas of restaurants, sidewalk cafes and hotel dining areas in increasing numbers. We are also now finding these heaters in new locations such as outdoor smoking areas and retail sites. These heaters are readily available to consumers at local home and building supply locations and it seems unreasonable to strictly prohibit the use of these heaters in outdoor areas when there is little data to support such a prohibition. This proposal adds an exception to allow for the conditional use of outdoor patio heaters and establishes general safety requirements for the storage and use of such heaters in a new Section 603.4.2.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides needed regulation of a very popular and widely utilized outdoor heating appliance.

Assembly Action:

None

Final Hearing Results

F47-06/07

AS

Code Change No: F51-06/07

Original Proposal

Section: 606.8

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

606.8 Refrigerant detector. Machinery rooms shall contain a refrigerant detector with an audible and visual alarm. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV-TWA values shown in the International Mechanical Code for the refrigerant classification. Detectors and alarms shall be placed in approved locations. The detector shall transmit a signal to an approved location.

Reason: This change will help ensure that a refrigerant release in a machinery room is detected as soon as possible. Machinery rooms are unattended much of the time. It is similar in intent to Section 3704.2.2.10.1 Alarms, for toxic gases. The cost impact is expected to be minimal, because equipment to send security or fire alarms is already present at most refrigeration facilities.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides an enhanced level of safety and notification.

Assembly Action:

None

Final Hearing Results

F51-06/07

AS

Code Change No: F52-06/07

Original Proposal

Section: 606.9.1

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

606.9.1 Refrigeration system emergency shutoff. A clearly identified switch of the break-glass type or with an approved tamper resistant cover shall provide off-only control of ~~electrically energized equipment and appliances in the machinery room, other than refrigerant leak detectors and machinery room ventilation:~~ refrigerant compressors, refrigerant pumps, and normally closed, automatic refrigerant valves located in the machinery room. In addition, this equipment shall be automatically shut off whenever the refrigerant vapor concentration in the machinery room exceeds the vapor detector's upper detection limit or 25 percent of the LEL, whichever is lower.

Exception: In machinery rooms where only nonflammable refrigerants are used, ~~electrical equipment and appliances, other than compressors, are not required to be provided with a~~ only compressors are required to be stopped by vapor detection or the cut-off switch.

Reason: This change will help prevent the release of a large amount of refrigerant if there is a significant leak in the machinery room. It is similar in intent to Section 3704.2.2.10.2 Shut off of gas supply, for toxic gases. Energized equipment is changed to the primary equipment of concern in stopping a release, including compressors, pumps, and normally closed, automatic valves. The cost impact is expected to be minimal, because the needed equipment is already being used, including system controllers for automatic valves, pumps, and compressors, which can be connected to the gas detector.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the intent of the emergency shutoff provisions.

Assembly Action:

None

Final Hearing Results

F52-06/07

AS

Code Change No: F53-06/07

Original Proposal

Sections: 608.1, Table 608.1, 608.5, 608.5.2, 608.6.1, 602 (New)

Proponent: Ronald Marts, Telcordia Technologies, representing AT&T, SBC, Ameritech, PacBell, Cincinnati Bell, Qwest, Southern New England Telephone

1. Revise as follows:

608.1 Scope. Stationary storage battery systems having an electrolyte capacity of more than 50 gallons (189L) for flooded lead acid, Nickel Cadmium, and VRLA, or 1000 pounds for Lithium-Ion and Lithium Metal Polymer, used for facility standby power, emergency power, or uninterrupted power supplies shall comply with this section and with Table 608.1.

**TABLE 608.1
BATTERY REQUIREMENTS**

Requirement	Nonrecombinant Batteries		Recombinant Batteries		Other
	Flooded Lead Acid Batteries	Flooded Nickel Cadmium (Ni-Cd) Batteries	Valve Regulated Lead Acid (VRLA) Batteries	Lithium-Ion	<u>Lithium Metal Polymer</u>
Safety Caps	Venting caps (608.2.1)	Venting caps (608.2.1)	Self-resealing flame-arresting caps (608.2.2)	No caps	<u>No caps</u>
Thermal runaway Management	Not required	Not required	Required (608.3)	Not required	<u>Not Required</u>
Spill Control	Required (608.5)	Required (608.5)	Not required	Not required	<u>Not Required</u>
Neutralization	Required (608.5.1)	Required (608.5.1)	Required (608.5.2)	Not required	<u>Not Required</u>
Ventilation	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Not Required	<u>Not Required</u>
Signage	Required (608.7)	Required (608.7)	Required (608.7)	Required (608.7)	<u>Required (608.7)</u>
Seismic Protection	Required (608.8)	Required (608.8)	Required (608.8)	Required 608.8	<u>Required 608.8</u>
Smoke Detection	Required (608.9)	Required (608.9)	Required (608.9)	Required 608.9	<u>Required 608.9</u>

608.5 Spill control and neutralization. An approved method and materials for the control and neutralization of a spill of electrolyte shall be provided in areas containing lead-acid, nickel-cadmium, or other types of batteries with free-flowing liquid electrolyte. For purposes of this paragraph, a “spill” is defined as any unintentional release of electrolyte.

Exception: VRLA, Lithium-Ion, Lithium Metal Polymer, or other types of sealed batteries with immobilized electrolyte shall not require spill control.

608.5.2 Recombinant battery neutralization. For VRLA or other types of sealed batteries with immobilized electrolyte, the method and material shall be capable of neutralizing a spill of 3.0 percent of the capacity of the largest VRLA cell or block in the room to a pH between 7.0 and 9.0.

Exception: Lithium-Ion and Lithium Metal Polymer batteries shall not require neutralization.

608.6.1 Room ventilation. Ventilation shall be provided in accordance with the *International Mechanical Code* and the following:

1. For flooded lead acid, flooded Ni-Cad, and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (1 ft³/min/ft²) [0.0051 m³/s m²] of floor area of the room.

Exception: Lithium-Ion and Lithium Metal Polymer batteries shall not require ventilation.

2. Add new definition as follows:

602.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

LITHIUM METAL POLYMER BATTERY. A storage battery that uses an aluminum foil current collector, a vanadium oxide cathode, a solid polymer electrolyte, and a metallic lithium anode. The lithium ions are the charge carriers of the battery.

Reason: This proposed change adds Lithium Metal Polymer (LMP) batteries to Section 608. LMP batteries are currently undergoing tests by several end users for use as stationary battery back-up systems where lead acid and VRLA batteries are currently used.

The LMP battery is similar to the Lithium-ion type in its characteristics (light, energy-dense, no liquid electrolyte, etc.). This technology is becoming more popular for deployment in outdoor cabinets and in buildings as well.

Like Lithium-ion, LMP uses Lithium ions as the charge carrier. However, LMP batteries have a little more Lithium because their anode is a solid thin foil of pure Lithium (encased in a plastic-like polymer that serves as the electrolyte).

Even though LMP batteries should be recycled, they don't pose as much of an environmental hazard as lead-acid or Ni-Cad technologies. There is no gassing (the battery is truly completely sealed), no liquid electrolyte, and no really heavy metals. LMP batteries are one of the best technologies on the market for high temperature environments since they operate internally above 40 degrees C (the touch temperature of the case does not exceed 41 degrees C unless the ambient temperature exceeds that value). This battery technology has no caps and it is literally maintenance free. It is not prone to thermal runaway, and has internal disconnects and external alarms. Spill control is not required since the batteries have no liquid electrolyte. Similarly, neutralization is not required. Ventilation is not required, since there are no caps and no off-gassing. Temperature compensation is not required as the operating float voltage window is large, and heating and cooling are not necessary (internal heaters take care of the battery). Some signage and seismic control is required. Due to the sealed nature of the battery, it is a very low fire hazard. LMPs are Listed for safety to UL 1989, 2054, 60950, and 1642. NFPA 704 fire hazard diamond levels are:

Red (Flammability): 2 (case materials are UL 94 V-0)
 Blue (Health): 3
 Yellow (Instability): 1
 White (water reactivity): 0

The new definition is required in Section 602 for clarity.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal would exclude other Lithium Metal Polymer technologies, such as magnesium dioxide cathodes, and the hazards of thermal runaway have not been addressed. Also, the proposed definition includes text that is essentially commentary.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Ronald Marts, Telcordia Technologies, representing AT&T, BellSouth, SBC, PacBell, Ameritech, SNET, Qwest, Cincinnati Bell, requests Approval as Modified by this public comment.

Modify Table 608.1 as follows:

**TABLE 608.1
BATTERY REQUIREMENTS**

Requirement	Non-recombinant Batteries		Recombinant Batteries		Other
	Flooded Lead Acid Batteries	Flooded Nickel Cadmium (Ni-Cd) Batteries	Valve Regulated Lead Acid (VRLA) Batteries	Lithium-Ion	Lithium Metal Polymer
Safety Caps (608.2)	Venting caps (608.2.1)	Venting caps (608.2.1)	Self-sealing flame-arresting caps (608.2.2)	No caps	No caps
Thermal Runaway Management	Not required	Not required	Required (608.3)	Not required	Not Required (608.3)
Spill Control	Required (608.5)	Required (608.5)	Not required	Not required	Not Required
Neutralization	Required (608.5.1)	Required (608.5.1)	Required (608.5.2)	Not required	Not Required
Ventilation	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Not Required	Not Required
Signage	Required (608.7)	Required (608.7)	Required (608.7)	Required (608.7)	Required (608.7)
Seismic Control	Required (608.8)	Required (608.8)	Required (608.8)	Required 608.8	Required 608.8
Fire Detection	Required (608.9)	Required (608.9)	Required (608.9)	Required 608.9	Required 608.9

2. Modify current text as follows:

608.3 Thermal runaway. VRLA and lithium metal polymer battery systems shall be provided with a listed device or other approved method to preclude, detect, and control thermal runaway.

3. Modify proposed definition as follows:

BATTERY TYPES

LITHIUM METAL POLYMER BATTERY. A storage battery that is comprised of non-aqueous liquid or polymerized electrolytes, which provide ionic conductivity between lithiated positive active material electrically separated from metallic lithium or lithiated negative active material uses an aluminum foil current collector, a vanadium oxide cathode, a solid polymer electrolyte, and a metallic lithium anode. The lithium ions are the charge carriers of the battery.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The original proposal was submitted to include Lithium Metal Polymer (LMP) batteries to Section 608. The committee disapproved the proposed change for three reasons: 1) thermal runaway was not addressed; 2) the proposal could preclude other LMP technologies; 3) definition included text that was commentary.

This revised change addresses thermal runaway in both the table and the text. The change has also been modified to include all LMP technologies, and the definition has been modified to conform to battery industry standards.

Final Hearing Results

F53-06/07

AMPC1

Code Change No: F54-06/07

Original Proposal

Section: 608.6.3 (New)

Proponent: Lynne M. Kilpatrick, Fire Department, City of Seattle, WA

Add new text as follows:

608.6.3 Supervision. Ventilation systems required by Section 608.6.1 and 608.6.2 shall be supervised by an approved central, proprietary, or remote station service or shall initiate an audible and visual signal at a constantly attended on-site location.

Reason: The ventilation systems in 608.6.1 and 608.6.2 are required to insure that the concentration of hydrogen does not exceed 1% or present an explosion hazard. Without a supervised system or a signal at a constantly attended location, the required ventilation systems can fail without warning allowing hydrogen concentrations to build to hazardous levels. The proposed code change adds a new requirement to supervise both the required room and cabinet ventilation systems to ensure that there will be adequate notification of a system failure.

Cost Impact: The code change proposal will increase the cost of the ventilation system.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal provides no justification as to why supervision should be required now after many years of battery operated equipment (e.g., golf carts, etc.) charging for prolonged periods. It also does not specify what aspects of the ventilation system are to be supervised.

Assembly Action:

Approved as Submitted

Public Comment

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

Public Comment:

Stephen McCluer, American Power Conversion, requests Disapproval.

Commenter's Reason: The requirements of this proposal are too broad and vague to be enforceable. This requirement would be absolutely useless for installations using batteries that do not generate hydrogen gas, such as lithium batteries. It is especially onerous on battery cabinets.

Final Hearing Results

F54-06/07

AS

Code Change No: F55-06/07

Original Proposal

Sections: 609.3 (New), 609.3.1 through 609.3.4, 904.11.6 through 904.11.6.5

Proponent: Dan E. Nichols, New York State Department of State

Revise as follows:

609.3 Operations and maintenance. Commercial cooking systems shall be operated and maintained in accordance with Sections 609.3.1 through 609.3.4.

609.3.1 904.11.6.1 Ventilation system. The ventilation system in connection with hoods shall be operated at the required rate of air movement, and classified grease filters shall be in place when equipment under a kitchen grease hood is used.

609.3.2 904.11.6.2 Grease extractors. Where grease extractors are installed, they shall be operated when the commercial-type cooking equipment is used.

609.3.3 904.11.6.3 Cleaning. Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded, and records shall state the extent, time and date of cleaning. Such records shall be maintained on the premises.

609.3.4 Extinguishing system service. Automatic fire-extinguishing systems protecting commercial cooking system shall be serviced as required in Section 904.11.6.

904.11.6 Operations and maintenance. Automatic fire-extinguishing systems protecting commercial cooking systems shall be operated and maintained in accordance with this section.

904.11.6.4 904.11.6.1 Extinguishing system service. Automatic fire-extinguishing systems shall be serviced at least every 6 months and after activation of the system. Inspection shall be by qualified individuals, and a certificate of inspection shall be forwarded to the fire code official upon completion.

904.11.6.5 904.11.6.2 Fusible link and sprinkler head replacement. Fusible links and automatic sprinkler heads shall be replaced at least annually, and other protection devices shall be serviced or replaced in accordance with the manufacturer's instructions.

Exception: Frangible bulbs are not required to be replaced annually.

Reason: The purpose of this code change proposal is to place the requirements for commercial kitchen hoods in Chapter 6 so they are applicable to all commercial kitchen hoods.

Currently, the operational and maintenance requirements of commercial kitchen hoods are located within IFC Section 904. There are many cases when a commercial hood system is required by the IMC but doesn't require a fire-extinguishing system, such as Type II hoods providing ventilation for steam or odors. Since the requirement that commercial hood systems shall be operated is within the fire-extinguishing system section, the current IFC has no requirement that these ventilation systems need to be activated.

The intent of this code change is not to alter the technical requirements of the IFC but to provide a better path of enforcement for the code user. It is not the purpose of this code change proposal to alter other code change proposals on this topic besides the location they are found in the IFC.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: While the maintenance of the technical content of Section 609 rests with the IMC Code Development Committee, the appropriateness of relocating existing text to Section 609 from Section 904, without technical change, rests with the IFC Code Development Committee.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will enhance the code and places requirements in a more appropriate location.

Assembly Action:

None

Final Hearing Results

F55-06/07

AS

Code Change No: F59-06/07

Original Proposal

Sections: 703.1.2, 703.1.3 (New), Chapter 45

Proponent: Vickie Lovell, representing Air Movement and Control Association

1. Revise as follows:

703.1.2 Smoke barriers and smoke partitions. Required smoke barriers and smoke partitions shall be maintained to prevent the passage of smoke, and All openings shall be protected with approved smoke barrier doors or smoke dampers in accordance with NFPA 105.

703.1.3 Fire walls, fire barriers and fire partitions. Required fire walls, fire barriers and fire partitions shall be maintained to prevent the passage of fire. All openings protected with approved doors or fire dampers shall be maintained in accordance with NFPA 80.

2. Add referenced standard to Chapter 45 as follows:

NFPA

105-03 – Standard for Installation of Smoke Door Assemblies

Reason: The maintenance for smoke doors and smoke dampers is covered by NFPA 105. Additionally the scope of NFPA 80 has been changed and expanded to include the maintenance requirements of fire dampers. This most recent editions of these standards will be voted on in June at the NFPA meeting. A copy of the final document will be provided to ICC staff and the committee is the document passes successfully and is authorized for publication by the NFPA standards Council.

Cost Impact: The code change proposal will not increase the cost of construction.

Errata: The following (published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings) replaced the original proposal:

Proponent: Vickie Lovell, representing Air Movement and Control Association

1. Revise as follows:

703.1.2 Smoke barriers and smoke partitions. Required smoke barriers and smoke partitions shall be maintained to prevent the passage of smoke, and All openings protected with approved smoke barrier doors or smoke dampers shall be maintained in accordance with NFPA 105.

2. Add new text as follows:

703.1.3 Fire walls, fire barriers and fire partitions. Required fire walls, fire barriers and fire partitions shall be maintained to prevent the passage of fire. All openings protected with approved doors or fire dampers shall be maintained in accordance with NFPA 80.

3. Add referenced standard to Chapter 45 as follows:**NFPA**105-03 – Standard for Installation of Smoke Door Assemblies

Reason: The maintenance for smoke doors and smoke dampers is covered by NFPA 105. Additionally the scope of NFPA 80 has been changed and expanded to include the maintenance requirements of fire dampers. This most recent editions of these standards will be voted on in June at the NFPA meeting. A copy of the final document will be provided to ICC staff and the committee if the document passes successfully and is authorized for publication by the NFPA standards Council.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Modified****Modify the proposal as follows:**

703.1.2 Smoke barriers and smoke partitions. Required smoke barriers and smoke partitions shall be maintained to prevent the passage of smoke. All openings protected with approved smoke barrier doors or smoke dampers shall be maintained ~~in accordance with NFPA 105.~~

703.1.3 Fire walls, fire barriers and fire partitions. Required fire walls, fire barriers and fire partitions shall be maintained to prevent the passage of fire. All openings protected with approved doors or fire dampers shall be maintained ~~in accordance with NFPA 80.~~

~~**Add referenced standard to Chapter 45 as follows:**~~~~**NFPA 105-03 – Standard for Installation of Smoke Door Assemblies**~~

~~**Committee Reason:** The proposal will provide an important enforcement tool in maintaining the original integrity of smoke resistant and fire resistance rated assemblies. The modifications are due to the proposed updated referenced standards not having been submitted to the committee for review.~~

Assembly Action:**Disapproved**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful.

Final Hearing Results

F59-06/07

AM

Code Change No: F61-06/07

Original Proposal

Section: 803.1.2

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

803.1.2 Classification in accordance with NFPA 286. Interior wall or ceiling finishes, ~~other than textiles,~~ shall be allowed to be tested in accordance with NFPA 286. Finishes tested in accordance with NFPA 286 shall comply with Section 803.1.2.1. Interior wall and ceiling finish materials, ~~other than textiles,~~ tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.1.2.1, shall be allowed to be used where a Class A classification in accordance with ASTM E 84 is required.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The phrase 'other than textiles' is contradictory, since section 803.5.1 already permits textile wall coverings to be tested in accordance with NFPA 286.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The stricken text is not needed here since textile tests are already addressed in IFC Sections 803.5.1.1 and 803.5.1.2.

Assembly Action:

None

Final Hearing Results

F61-06/07

AS

Code Change No: F62-06/07

Original Proposal

Section: 803.7.3

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

803.7.3 Trim. Foam plastic shall be allowed for trim in accordance with Section 804.2. ~~not in excess of 10 percent of the wall or ceiling area, provided such trim is not less than 20 pounds per cubic foot (320 kg/m³) in density, is limited to 0.5 inch (12.7 mm) in thickness and 8 inches (203 mm) in width, and exhibits a flame spread index not exceeding 75 when tested in accordance with ASTM E 84. The smoke developed index shall not be limited.~~

Reason: The wording in Section 803.7.3 has the potential of creating a conflict with the wording in 804.2 and is basically superfluous.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal eliminates the potential for conflict between Section 803.7.3 and Section 804.2.

Assembly Action:

None

Final Hearing Results

F62-06/07

AS

Code Change No: **F63-06/07**

Original Proposal

Sections: 804.1, 804.2.3

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

804.1 Interior trim. Material, other than foam plastic, used as interior trim shall have a minimum Class C flame spread index and smoke-developed index, when tested in accordance with ASTM E 84, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the aggregate wall ~~or~~ and ceiling ~~area~~ areas in which it is located.

804.2.3 Area limitation. The interior trim shall not constitute more than 10 percent of the aggregate wall and ceiling ~~area~~ areas of a room or space.

Reason: As written, the text of 804.1 is unclear. It appears that the intent of the section is that the area trim not exceed 10% of the sum of the areas of the wall and the ceiling, and the proposal would accomplish that. This is consistent with section 804.2.3. The change in 804.2.3 is made for consistency.

If the committee believes that the intent is that the area of trim not exceed 10% of each individually, the text in 804.1 needs to be changed to delete the word "aggregate" and the change in 804.2.3 needs to be changed to replace the word "and" by the word "or" and to delete the word "aggregate". The sections would then read:

804.1 Interior trim. Material, other than foam plastic, used as interior trim shall have a minimum Class C flame spread index and smoke-developed index, when tested in accordance with ASTM E 84, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the ~~aggregate~~ wall or ceiling area in which it is located.

804.2.3 Area limitation. The interior trim shall not constitute more than 10 percent of the ~~aggregate~~ wall ~~and~~ or ceiling area of a room or space.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

804.1 Interior trim. Material, other than foam plastic, used as interior trim shall have a minimum Class C flame spread index and smoke-developed index, when tested in accordance with ASTM E 84, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the ~~aggregate~~ wall or ~~and~~ ceiling areas in which it is located.

804.2.3 Area limitation. The interior trim shall not constitute more than 10 percent of the ~~aggregate~~ wall or ~~and~~ ceiling areas of a room or space.

Committee Reason: The committee believes that the correct intent of the code is that the area of trim shall not exceed 10% of the wall or ceiling area individually. The modification clarifies that position.

Assembly Action:

None

Final Hearing Results

F63-06/07

AM

Code Change No: **F64-06/07**

Original Proposal

Sections: 804.1.1 (New), 804.2.5 (New)

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Add new text as follows:

804.1.1 Alternate testing When the interior trim material has been tested in accordance with NFPA 286 and complies with the acceptance criteria in 803.1.2.1 it shall not be required to be tested for flame spread index and smoke-developed index in accordance with ASTM E 84.

804.2.5 Heat release. When the interior trim material has been tested in accordance with NFPA 286 and complies with the acceptance criteria in 803.1.2.1, it shall not be required to be tested for flame spread index in accordance with ASTM E 84.

Reason: This proposal is really only clarification. Chapter 8 of the IBC (and Section 803.1.2) already make it clear that any material that meets the criteria of 803.1.2.1 is permitted to be used for interior finish. The criteria for interior trim (whether a foam plastic or not) are basically just a less severe requirement, that applies to smaller areas only. If the material is allowed to be used covering the entire wall or ceiling, it is also allowed to be used covering 10% of it.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

804.1.1 Alternate testing When the interior trim material has been tested as an interior finish in accordance with NFPA 286 and complies with the acceptance criteria in 803.1.2.1 it shall not be required to be tested for flame spread index and smoke-developed index in accordance with ASTM E 84.

804.2.4 Flame spread. The flame spread index shall not exceed 75 where tested in accordance with ASTM E 84. The smoke-developed index shall not be limited.

Exception: ~~804.2.5 Heat release.~~ When the interior trim material has been tested as an interior finish in accordance with NFPA 286 and complies with the acceptance criteria in 803.1.2.1, it shall not be required to be tested for flame spread index in accordance with ASTM E 84.

Committee Reason: Based on the proponent's reason statement. The proposal will provide clarification and an alternative testing means for interior trim materials. The modification clarifies how the material is to be tested and more properly makes proposed Section 804.2.5 into an exception to Section 804.2.4.

Assembly Action:

None

Final Hearing Results

F64-06/07

AM

Code Change No: **F65-06/07**

Original Proposal

Sections: 804.3 (IBC [F] 806.6), 802.1 (IBC 802.1)

Proponent: Jesse J. Beitel, Hughes Associates, Inc., representing Armstrong World Industries, Inc.

1. Add new text as follows:

804.3 Interior floor-wall base. Interior floor-wall base that is 6 inches (152 mm) or less in height shall be tested in accordance with NFPA 253 and shall not be less than Class II. Where a Class I floor finish is required, the floor-wall base shall be Class I. The classification referred to herein corresponds to the classifications determined by NFPA 253 as follows: Class I, 0.45 watt/cm² or greater; Class II, 0.22 watts/cm² or greater.

Exception: Interior trim materials that comply with Section 804.1.

802.1 General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

INTERIOR FLOOR-WALL BASE. Interior floor finish trim used to provide a functional and/or decorative border at the intersection of walls and floors.

2. Add new text as follows:

IBC [F] 806.6 Interior floor-wall base. Interior floor-wall base that is 6 inches (152 mm) or less in height shall be tested in accordance with Section 804.2 and shall not be less than Class II. Where a Class I floor finish is required, the floor-wall base shall be Class I.

Exception: Interior trim materials that comply with Section 806.5.

IBC 802.1 General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

[F] INTERIOR FLOOR-WALL BASE. Interior floor finish trim used to provide a functional and/or decorative border at the intersection of walls and floors.

Reason: The purpose of this proposal is to add a new definition and application of a test to clarify requirements of the Code.

This code proposal addresses the issue of testing and regulation of interior floor-wall base trim materials. In many cases, the floor covering material is just seamlessly turned-up or used at the intersection of the floor and the wall and thus it becomes the floor-wall base trim.

Currently, these materials could be considered as interior trim per Sections 804.1 and 806.5 and would be required to be tested per ASTM E 84 even though the floor covering may be required to be tested per NFPA 253. Based on the small amount of material used, it is very difficult to test these materials in a reliable manner, upside down in the ASTM E 84 test method.

Because of their location, at the floor-line, floor-wall base materials are not likely to be involved in a fire until the floor covering is also involved, usually at room flashover. Thus, it is reasonable that floor-wall base materials meet the same criteria as floor coverings. The proposal specifies that floor-wall base materials 6 in. or less in height be tested per NFPA 253 and the proposal provides requirements for this application.

The exception recognizes that some materials used as interior finish trim and that meet the flammability requirements of Section 804.1 can be used in this specific application without the need for additional testing.

The addition of the definition for Floor-Wall Base provides an understanding and clarification of these types of products versus other interior trim materials.

The reference to NFPA 253 is provided and NFPA 253 is currently referenced by the IBC.

A similar proposal was submitted in the 2004/2005 Code Cycle – FS152-04/05. In the Final Action Hearing in Detroit, a public comment was discussed and the membership voted to uphold the public comment and defeat the proposed code change. We have worked with the maker of the public comment and have in this proposal, incorporated changes which address their concerns.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides reasonable regulation of a commonplace installation practice as well as an appropriate testing standard for materials used in the floor-wall base application.

Assembly Action:

None

Final Hearing Results

F65-06/07

AS

Code Change No: **F66-06/07**

Original Proposal

Section: 805.1.1.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.1.1.1 Ignition by cigarettes. Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following: (a) mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261 or (b) the components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260 and shall meet the requirements of Class I .

Exception: Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1

Reason: This change is for consistency with 805.2.1.1 and 805.3.1.1. This offers an alternative test method (NFPA 261) for approval of cigarette ignition resistance of newly introduced upholstered furniture in Group I-1 occupancies (board and care facilities). The same test method is already permitted for use in Groups I-2 and I-3 occupancies. The difference between NFPA 260 and NFPA 261 is that NFPA 260 tests individual materials while NFPA 261 tests mocked-up composites. In fact, results from NFPA 261 are more likely to be predictive of real fire behavior.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will clarify the ignition resistance testing options for Group I-1 occupancies.

Assembly Action:

None

Final Hearing Results

F66-06/07

AS

Code Change No: **F67-06/07**

Original Proposal

Section: 805.1.1.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.1.1.1 Ignition by cigarettes. Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following: (a) mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261 or (b) the components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260 and shall meet the requirements of Class I

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

Reason: The proposal deletes the exception because: (a) sprinklers have no effect on controlling smoldering ignition (ignition by cigarettes), since they require an increase in room temperature to act and there will be no increase in room temperature until well after the upholstered furniture which fails the cigarette test has erupted into flames and (b) newly introduced upholstered furniture is very likely to meet smoldering ignition requirements since both the trade association for manufacturers of residential upholstered furniture (UFAC, Upholstered Furniture Action Council or its sister organization, the American Furniture Manufacturers Association) and the trade association for manufacturers of institutional and contract upholstered furniture (BIFMA, Business and Institutional Furniture Manufacturers Association) have been demanding that all their members comply with the smoldering resistance test. UFAC requires NFPA 260 (equivalent to ASTM E 1353 and the UFAC test) and BIFMA requires NFPA 261 (equivalent to ASTM E 1352). This proposal does not affect existing upholstered furniture.

The change to the charging section is for consistency with 805.2.1.1 and 805.3.1.1. This offers an alternative test method (NFPA 261) for approval of cigarette ignition resistance of newly introduced upholstered furniture in Group I-1 occupancies (board and care facilities). The same test method is already permitted for use in Groups I-2 and I-3 occupancies. The difference between NFPA 260 and NFPA 261 is that NFPA 260 tests individual materials while NFPA 261 tests mocked-up composites. In fact, results from NFPA 261 are more likely to be predictive of real fire behavior.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. Deletion of the exception recognizes that sprinklers have no effect on a smoldering ignition scenario due to the lack of a temperature increase in the room. See also the action on F66-06/07.

Assembly Action:

None

Final Hearing Results

F67-06/07

AS

Code Change No: F68-06/07

Original Proposal

Section: 805.1.2.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.1.2.1 Ignition by cigarettes. Newly introduced mattresses shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with DOC 16 CFR Part 1632 and shall have a char length not exceeding 2 inches (51 mm).

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

Reason: The proposal deletes the exception because: (a) sprinklers have no effect on controlling smoldering ignition (ignition by cigarettes), since they require an increase in room temperature to act and there will be no increase in room temperature until well after the mattress which fails the cigarette test has erupted into flames and (b) newly introduced mattresses will have to meet smoldering ignition requirements since the Federal Government has required compliance with 16CFR1632 since 1972. This proposal does not affect existing mattresses.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement and for consistency with the action on F67-06/07.

Assembly Action:

None

Final Hearing Results

F68-06/07

AS

Code Change No: F69-06/07

Original Proposal

Section: 805.2.1.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.2.1.1 Ignition by cigarettes. Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following: (a) mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261 or (b) the components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

Exceptions:

- 4- Upholstered furniture belonging to the patient in sleeping rooms of nursing homes (Group I-2), provided that a smoke detector is installed in such rooms. Battery-powered, single-station smoke alarms shall be allowed.
- 2- ~~Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

Reason: The proposal deletes the exception because: (a) sprinklers have no effect on controlling smoldering ignition (ignition by cigarettes), since they require an increase in room temperature to act and there will be no increase in room temperature until well after the upholstered furniture which fails the cigarette test has erupted into flames and (b) newly introduced upholstered furniture is very likely to meet smoldering ignition requirements since both the trade association for manufacturers of residential upholstered furniture (UFAC, Upholstered Furniture Action Council or its sister organization, the American Furniture Manufacturers Association) and the trade association for manufacturers of institutional and contract upholstered furniture (BIFMA, Business and Institutional Furniture Manufacturers Association) have been demanding that all their members comply with the smoldering resistance test. UFAC requires NFPA 260 (equivalent to ASTM E 1353 and the UFAC test) and BIFMA requires NFPA 261 (equivalent to ASTM E 1352). This proposal does not affect existing upholstered furniture.

This proposal does not affect the exception that allows patients in nursing homes to bring their own upholstered furniture, provided there is a smoke detector.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement and for consistency with the action on F67- and F68-06/07.

Assembly Action:

None

Final Hearing Results

F69-06/07

AS

Code Change No: F70-06/07

Original Proposal

Section: 805.3.1.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.3.1.1 Ignition by cigarettes Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following:

1. Mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261, or
2. The components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

Reason: The proposal deletes the exception because: (a) sprinklers have no effect on controlling smoldering ignition (ignition by cigarettes), since they require an increase in room temperature to act and there will be no increase in room temperature until well after the upholstered furniture which fails the cigarette test has erupted into flames and (b) newly introduced upholstered furniture is very likely to meet smoldering ignition requirements since both the trade association for manufacturers of residential upholstered furniture (UFAC, Upholstered Furniture Action Council or its sister organization, the American Furniture Manufacturers Association) and the trade association for manufacturers of institutional

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

and contract upholstered furniture (BIFMA, Business and Institutional Furniture Manufacturers Association) have been demanding that all their members comply with the smoldering resistance test. UFAC requires NFPA 260 (equivalent to ASTM E 1353 and the UFAC test) and BIFMA requires NFPA 261 (equivalent to ASTM E 1352). This proposal does not affect existing upholstered furniture.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement and for consistency with the action on F67-, F68- and F69-06/07.

Assembly Action:

None

Final Hearing Results

F70-06/07

AS

Code Change No: F71-06/07

Original Proposal

Sections: 805.3.1.2, 805.3.2.2

Proponent: Carl M. Ogburn, Chestnut Ridge Foam

Revise as follows:

805.3.1.2 Heat release rate. Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537, as follows:

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

Exceptions:

1. In Use Condition I, II and III occupancies, as defined in the *International Building Code*, upholstered furniture in rooms or spaces protected by approved smoke detectors that initiate, without delay, an alarm that is audible in that room or space.
2. ~~Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 MJ.

~~**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

805.3.2.2 Heat release rate. Newly introduced mattresses shall have limited rates of heat release when tested in accordance with ASTM E 1590 or California Technical Bulletin 129, as follows:

1. The peak rate of heat release for the single mattress shall not exceed 100 kW.

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 MJ.

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

Reason: Mattresses and furniture in detention and correction environments should not be allowed a "sprinkler exception" because of the way the cell environment is laid out, where steel bunks and other metal or concrete areas permit furniture (and especially mattresses) to be hidden in a way that the sprinkler lacks effectiveness. There is abundant evidence that prisoners start fires in cells, often by destroying the furniture or mattress items they have in their cells, and place them, together with other personal combustible items, in protected environments (such as underneath the steel metal pans), outside the reach of the water jet from the automatic sprinklers. Such items are usually placed underneath a bunk or lower bunk of solid steel, and intentionally ignited. When fires occur in cells the people in danger are not just the prisoners but also the guards and other prisoners, since the smoke spreads from the fire in the cell that has not been contained.

The difference in cost between a mattress that has fire performance complying with the existing code and a traditional prison mattress is negligible, so this will have little to no economic impact.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The sprinklered building exception should not be allowed because fires in correctional institutions are often intentionally set by cell occupants in locations that may be shielded from sprinkler discharge, reducing sprinkler response time and increasing the danger to occupants.

Assembly Action:

None

Final Hearing Results

F71-06/07

AS

Code Change No: F72-06/07

Original Proposal

Section: 805.3.2.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.3.2.1 Ignition by cigarettes. Newly introduced mattresses shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with DOC 16 CFR Part 1632 and shall have a char length not exceeding 2 inches (51 mm).

~~**Exception:** Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

Reason: The proposal deletes the exception because: (a) sprinklers have no effect on controlling smoldering ignition (ignition by cigarettes), since they require an increase in room temperature to act and there will be no increase in room temperature until well after the mattress which fails the cigarette test has erupted into flames and (b) newly introduced mattresses will have to meet smoldering ignition requirements since the Federal Government has required compliance with 16CFR1632 since 1972. This proposal does not affect existing mattresses.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement and for consistency with the action on F67-, F68-, F69- and F70-06/07.

Assembly Action:

None

Final Hearing Results

F72-06/07

AS

Code Change No: **F75-06/07**

Original Proposal

Section: 805.4 (New)

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Add new text as follows:

805.4 Group R-2 dormitories and non-transient hotels and motels. The requirements in Sections 805.4.1 through 805.4.2.3 shall apply to dormitories and non-transient hotels and motels classified in Group R-2.

805.4.1 Upholstered furniture. Newly introduced upholstered furniture shall meet the requirements of sections 805.4.1.1 through 805.4.1.3

805.4.1.1 Ignition by cigarettes Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with one of the following:

1. Mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261, or
2. The components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

805.4.1.2 Heat release rate. Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537, as follows.

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

Exception: Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

Exception: Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

805.4.1.3 Identification. Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.4.1.1 and 805.4.1.2.

805.4.2 Mattresses. Newly introduced mattresses shall meet the requirements of sections 805.4.2.1 through 805.4.2.3.

805.4.2.1 Ignition by cigarettes. Newly introduced mattresses shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with DOC 16 CFR Part 1632 and shall have a char length not exceeding 2.0 inches (51 mm).

805.4.2.2 Heat release rate. Newly introduced mattresses shall have limited rates of heat release when tested in accordance with ASTM E 1590 or California Technical Bulletin 129, as follows.

1. The peak rate of heat release for the single mattress shall not exceed 100 kW.

Exception: Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

Exception: Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

805.4.2.3 Identification. Mattresses shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.4.2.1 and 805.4.2.2.

Reason: Upholstered furniture and mattresses in dormitories and in non-transient hotels and motels should comply with the same requirements on fire performance as institutions (Group I-1, I-2 and I-3 occupancies) and that is what this proposal recommends. The recommended test methods and criteria are identical to those in sections 805.1, 805.2 and 805.3 of the IFC.

This is particularly important now that CPSC is requiring that all residential mattresses sold in the US from July 1, 2007, must comply only with a test equivalent to CA TB 603 (16 CFR 1633). The CA TB 603 or 16 CFR 1633 tests can be "passed" with nothing more than a good ticking (cover fabric) or a barrier and with padding that is not fire safe. Therefore, mattresses that meet CA TB 603 or 16 CR 1633 are unsafe for dormitories and for non transient hotels and motels, where it is not uncommon to have individuals drunk in bed, falling asleep with a cigarette in their hand, and who have candles too. Nowadays, many travelers bring along 'mood candles' and leave them lit when they go to sleep and the same is true for students in dormitories and residents in non-transient hotels and motels. The proposal recommends the criteria and the test method in CA TB 129 (ASTM E 1590 is technically identical to CA TB 129 but was passed by a consensus standards organization and has no pass/fail criteria), which is a requirement that is met by a fire-safe mattress.

There is still no regulation for upholstered furniture in institutions nationwide, but the proposal is identical to what is being required in California (and has been required for many years). The proposal recommends the criteria and the test method in CA TB 133 (ASTM E 1537 is technically identical to CA TB 133 but was passed by a consensus standards organization and has no pass/fail criteria), which is a requirement that is met by a fire-safe upholstered furniture item.

Several major hotel chains have had informal requirements that their upholstered furniture comply with CA TB 133 and that their mattresses comply with CA TB 129 for many years. It is important that similar requirements apply to those R2 occupancies where the fire risk problem is higher.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The action on this proposal should be consistent with the action on Code Changes F74- and F76-06/07.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: For consistency with the action on F74-06/07. The number of apparent problems with these proposals should be resolved by consensus among the various proponents during the public comment period.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Marcelo M. Hirschler, GBH International, representing American Fire Safety Council requests Approval as Modified by this public comment.

Modify proposal as follows:

805.4 Group R-2 college and university dormitories and non-transient hotels and motels. The requirements in Sections 805.4.1 through 805.4.2.3 shall apply to college and university dormitories and non-transient hotels and motels classified in Group R-2.

805.4.1 Upholstered furniture. Newly introduced upholstered furniture shall meet the requirements of sections 805.4.1.1 through 805.4.1.3

805.4.1.1 Ignition by cigarettes Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with NFPA 260 and shall meet the requirements for Class I, ~~one of the following:~~

- ~~1. Mocked up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261, or~~
- ~~2. The components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.~~

805.4.1.2 Heat release rate. Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537 ~~or California Technical Bulletin 133~~, as follows.

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

Exception: Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

Exception: Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

805.4.1.3 Identification. Upholstered furniture shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.4.1.1 and 805.4.1.2.

805.4.2 Mattresses. Newly introduced mattresses shall meet the requirements of sections 805.4.2.1 through 805.4.2.3.

805.4.2.1 Ignition by cigarettes. Newly introduced mattresses shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with DOC 16 CFR Part 1632 and shall have a char length not exceeding 2.0 inches (51 mm).

805.4.2.2 Heat release rate. Newly introduced mattresses shall have limited rates of heat release when tested in accordance with ASTM E 1590 or California Technical Bulletin 129, as follows.

1. The peak rate of heat release for the single mattress shall not exceed 100 kW.

Exception: Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

2. The total energy released by the single ~~mattress upholstered furniture item~~ during the first 10 minutes of the test shall not exceed 25 megajoules (MJ).

Exception: Mattresses in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

805.4.2.3 Identification. Mattresses shall bear the label of an approved agency, confirming compliance with the requirements of Sections 805.4.2.1 and 805.4.2.2.

Commenter's Reason: The committee also recommended that consensus be obtained among the various proposals. In view of that, this comment on proposal F75 builds on the acceptance of proposal F76. This comment restricts the scope of the changes from the original sets of occupancies and addresses only "college and university dormitories classified in Group R-2", just like F76. This is equivalent to a change to proposal F76 that makes the requirements for college and university dormitories consistent with those addressed by the IFC code for other occupancies, namely health care and detention. The committee discussed that college and university dormitories are the higher-risk occupancy types within Group R-2, where the fire record has been poor. Therefore this comment restricts the scope of the initial F76 proposal to those occupancy types. The acceptance of this comment will provide an important enforcement tool for both the fire code official and college and university campus housing authorities in limiting the combustibility of student-owned furnishings that they bring to school with them. Those furnishings include both upholstered furniture and mattresses, which are the high fuel items in dormitories. Proposal F76 addresses upholstered furniture only.

As discussed in other proposals accepted by the committee, sprinklers have no effect on smoldering fires and that is the other change from Proposal F76 addressed in this comment. Moreover, all mattresses sold in the US since 1972 must be smolder resistant and all major manufacturers of upholstered furniture comply with the industry requirements that their products are smolder resistant. This also brings consistency with the committee action on the other IFC occupancies.

If this comment is accepted, the changes approved in F76 are enhanced and are not lost.

Final Hearing Results

F75-06/07

AMPC1

Code Change No: F78-06/07

Original Proposal

Section: 807.4.2.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

807.4.2.1 Foam plastics. Exposed foam plastic materials and unprotected materials containing foam plastic used for decorative purposes or stage scenery or exhibit booths shall have a maximum heat release rate of 100 kilowatts (kW) when tested in accordance with UL 1975.

Exceptions:

1. Individual foam plastic items or items containing foam plastic where the foam plastic does not exceed 1 pound (0.45 kg) in weight.

2. Cellular or foam plastic shall be allowed for trim in accordance with Section 804.2 ~~not in excess of 10 percent of the wall or ceiling area, provided it is not less than 20 pounds per cubic foot (320 kg per cubic meter) in density, is limited to 0.5 inch (12.7 mm) in thickness and 8 inches (204 mm) in width, and complies with the requirements for Class B interior wall and ceiling finish, except that the smoke-developed index shall not be limited.~~

Reason: The wording in Section 807.4.2.1 exception 2 has the potential of creating a conflict with the wording in 804.2 and is basically superfluous.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the code by deleting unnecessary text which could cause conflict with IFC Section 804.2 if it remained.

Assembly Action:

None

Final Hearing Results

F78-06/07

AS

Code Change No: F83-06/07

Original Proposal

Sections: 902.1 (New) [IBC [F] 902.1 (New)]

Proponent: Ed Donoghue, Edward A. Donoghue Associates, Inc., representing National Elevator Industry, Inc.

Add new definition as follows:

902.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ELEVATOR GROUP. A grouping of elevators in a building located adjacent or directly across from one another that respond to a common hall call button(s).

Reason: Defines "elevator group" for application with Section 907.2.12.2 The term elevator group needs to be defined in order to more clearly designate areas requiring separate paging zones.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the code by adding a needed definition from the legacy codes.

Assembly Action:

None

Final Hearing Results

F83-06/07

AS

Code Change No: **F84-06/07**

Original Proposal

Sections: 902.1 (IBC [F] 902.1)

Proponent: John Guhl, Office of the State Fire Marshal, Sacramento, California

1. Revise definitions as follows:

902.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AVERAGE AMBIENT SOUND LEVEL. The root mean square, A-weighted sound pressure level measured over a 24-hour period, or the time any person is present, whichever time period is less.

DETECTOR, HEAT. A fire detector that senses heat ~~produced by burning substances, either abnormally high temperature or rate- of- rise or both.~~ Heat is the energy produced by combustion that causes substances to rise in temperature.

FIRE ALARM CONTROL UNIT. A system component that receives inputs from automatic and manual fire alarm devices and may be ~~is~~ capable of supplying power to detection devices and transponder(s) or off-premises transmitter(s). The control unit may be ~~is~~ capable of providing a transfer of power to the notification appliances and transfer of condition to relays or devices.

MULTIPLE-STATION SMOKE ALARM. Two or more single-station alarm devices that are capable of interconnection such that actuation of one causes the appropriate alarm signal to operate in all interconnected alarms. ~~all integral or separate audible alarms to operate.~~

SMOKE ALARM. A single- or multiple-station alarm responsive to smoke, ~~and not connected to a system.~~

2. Add new definition as follows:

ZONE, NOTIFICATION. An area within a building or facility covered by notification appliances which are activated simultaneously.

Reason: The definitions are intended to reflect the language used in the industry. These changes are in keeping with definitions in NFPA 72.

The proposal is an effort made by a group of people from various segments of the industry and code application to improve usability of the code. Before addressing the specific technical issue involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),
Shane Clary (Bay Alarm)
John Guhl (Office of the State Fire Marshal; California),
Tom Hammerberg (Automatic Fire Alarm Association, Inc),
Bill Hopple (SimplexGrinnel),
Dave Lowrey (Fire Rescue; City of Boulder),
Dan Nichols (Building Codes Division; State of New York),
Jon Nisja (State Fire Marshal Division; Minnesota),
Brit Rockafellow (Building Project Review, San Diego),
Jimbo Schiffiliti (Fire Safety Consultants, Inc),
Dave Stringfield (University of Minnesota)

This is one in a series of code changes. This one incorporates a specific technical issue identified by the group. It is identified here separately in case the composite proposal is deemed too extensive.

AVERAGE AMBIENT SOUND LEVEL: This change is required for correlation with the definition and requirements used in NFPA 72 (2002).

DETECTOR, HEAT: This change is required for correlation with the definition and requirements used in NFPA 72 (2002). This revised definition includes all heat sources, not just limited to burning substances.

FIRE ALARM CONTROL UNIT: This change is required for correlation with the definition used in NFPA 72 (2002). In this case the word "may" is appropriate. The Fire Alarm Control Unit could have the capability to supply power or, alternately, that power could be supplied by an external source. Likewise, if the power supply is external, then the control for it is external as well.

MULTIPLE-STATION SMOKE ALARM: This change is required for correlation with the definition and requirements used in NFPA 72 (2002). This change requires the appropriate alarm signal to operate in all interconnected alarms, and will insure the approved type and synchronization of the notification signals.

SMOKE ALARM: This change is required for correlation with the definition and requirements used in NFPA 72 (2002). This change would allow the connection to a fire alarm system for annunciation if required.

ZONE, NOTIFICATION: This definition is being added to define the term used in the IBC & IFC. This term and definition also correlates with the definition and requirements used in NFPA 72 (2002).

Bibliography:

NFPA 72 – National Fire Alarm Code; 2002 edition.

NFPA 72 – National Fire Alarm handbook; 2002 edition

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides definition revisions to correlate with referenced standard NFPA 72.

Assembly Action:

None

Final Hearing Results

F84-06/07

AS

Code Change No: F85-06/07

Original Proposal

Sections: 903.2.1, 903.2.2 (IBC [F] 903.2.1, [F] 903.2.2)

Proponent: Maureen Traxler, City of Seattle, Washington, Department of Planning & Development

Revise as follows:

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3, and A-4 occupancies, the automatic sprinkler system shall be provided throughout the floor area where the Group A-1, A-2, A-3 or A-4 occupancy is located, and in all floors between the Group A occupancy and the highest level of exit discharge. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.

903.2.2 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 20,000 square feet (1858 m²) in area.
2. Throughout every portion of educational buildings below the lowest level of exit discharge.

Exception: An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level.

Reason: "Level of exit discharge" is defined as "The horizontal plane located at the point at which an exit terminates and an exit discharge begins." Buildings on sloping sites often have more than one level of exit discharge. Unless a particular level of exit discharge is specified, these sections are ambiguous. This proposal specifies the highest level of exit discharge in Section 903.2.1, and the lowest level in Section 903.2.2 because those levels provide the occupants the earliest opportunity to leave the building.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee agreed that the noted sections are in need of clarification for buildings built on hilly terrain but pointed to the inconsistencies brought out in floor testimony that need to be fixed as the reason for disapproval. In Section 903.2.1, using the term "highest" could be problematic if a Group A occupancy is located below grade in that it could require more sprinklered levels than are actually necessary. The proponent's intent was to sprinkler levels to the first exit encountered, depending on whether the direction of travel is up or down and the proposal should clearly reflect that intent. It was also suggested that, since the intent is to identify exit discharge levels serving the occupancy, using the word "serving" might be useful. The proponent was encouraged to return with a public comment dealing with those issues.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Maureen Traxler, City of Seattle, Washington, Department of Planning and Development requests Approval as Modified by this public comment.

Modify proposal as follows:

903.2.1 Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the floor area where the Group A-1, A-2, A-3 or A-4 occupancy is located, and in all floors between the Group A occupancy and the ~~highest~~ nearest level of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.

903.2.2 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 20,000 square feet (1858 m2) in area.
2. Throughout every portion of educational buildings below the lowest level of exit discharge that serves that portion of the building.

Exception: An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level.

Commenter's Reason: Buildings on sloping sites often have more than one level of exit discharge. Unless a particular level of exit discharge is specified, sections 903.2.1 and 903.2.2 are ambiguous. This public comment specifies that sprinklers are required for all floors between Group A occupancies and the level of exit discharge closest to the assembly, that also serves the assembly. This provides protection for occupants of Group A until they reach a floor that provides them access to a public way.

Similarly, section 903.2.2 is modified to provide sprinkler protection for occupants of educational buildings until they reach the nearest level of exit discharge.

Final Hearing Results

F85-06/07

AMPC1

Code Change No: F89-06/07

Original Proposal

Sections: 903.2.9 (IBC [F] 903.2.9)

Proponent: Michael E. Dell'Orfano, South Metro Fire Rescue, representing Fire Marshal's Association of Colorado

Revise as follows:

903.2.9 Group S-2. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.4 of the *International Building Code* ~~or where located beneath other groups~~ as follows.

1. Where the fire area of the enclosed parking garage exceeds 12,000 square feet (1115 m²); or
2. Where the enclosed parking garage is located beneath other groups.

Exception: Enclosed parking garages located beneath Group R-3 occupancies.

Reason: The purpose of this code change proposal is to address an inconsistency in the IFC with respect to sprinkler thresholds for S-1 and S-2 occupancies. Currently, in IFC Section 903.2.8 there are sprinkler thresholds established for S-1 occupancies; particularly, the fire area needs to reach a certain square footage before sprinklers are required. But, in IFC Section 903.2.9 there is no square footage threshold for S-2 enclosed parking garages; they all need to be sprinklered regardless of square footage. Then, IFC Section 903.2.9.1 brings back in a square footage threshold for commercial parking garages. So currently, the sprinkler requirements for S-2 enclosed parking garages are the most restrictive of the Group S occupancies, yet they are the least hazardous use. It appears then, that a square footage threshold is "missing" in IFC Section 903.2.9. This assumption is supported by the 2003 IFC Commentary which states that it was not the intent for an enclosed parking garage to be more restrictive than a repair garage. Therefore, this code change establishes a sprinkler threshold for S-2 parking garages that is similar to S-1 occupancies.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal adds a needed and reasonable sprinkler threshold that was omitted during drafting of the code to correlate with Group S-1 and other 12,000 sq.ft thresholds.

Assembly Action:

None

Final Hearing Results

F89-06/07

AS

Code Change No: **F90-06/07**

Original Proposal

Sections: 903.2.10.1 (IBC [F] 903.2.10.1), 2306.6.1.1

Proponent: Gregory G Victor, Fire Department, Glendale, Arizona

Revise as follows:

903.2.10.1 Stories and basements without openings. An automatic sprinkler system shall be installed in every story or basement of all buildings where the floor area exceeds 1,500 square feet (139.4 m²) and where there is not provided at least one of the following types of exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1009 or an outside ramp complying with Section 1010. Openings shall be located in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at least one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet.
2. Openings entirely above the adjoining ground level totaling at least 20 square feet (1.86 m²) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at least one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet.

2306.6.1.1 Number of doors required. A minimum of one access door shall be provided in each 100 lineal feet (30 480 mm), or fraction thereof, of the exterior walls ~~which that~~ face required fire apparatus access roads. The required access doors shall be distributed such that the lineal distance between adjacent access doors does not exceed 100 feet.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The purpose of the proposed change is to provide guidance to the reader regarding the separation of the access openings and doors required by the IFC.

This proposal intends to give the reader direction regarding the separation requirements for these doors and openings and to coordinate these two sections with official ICC interpretations on this issue. The current code language does not expressly state what the ICC publishes as the intent of the code. This proposal will correct that by inserting the appropriate language in each section.

The two ICC interpretations on this issue read as follows:

Q: A building is provided with openings in the exterior wall in lieu of the automatic fire suppression system in accordance with Section 903.2.10.1. Is the spacing between the jambs of adjacent openings in the exterior wall permitted to exceed 50 feet?

A: No. Section 903.2.10.1 requires that either exterior stairways, outside ramps or above-ground openings at least 20 square feet in size be located in each 50 lineal feet or fraction thereof of exterior walls. The required openings must be distributed such that the lineal distance between adjacent openings does not exceed 50 feet. The distribution of openings provides fire fighters with ready access to the interior of the building as well as multiple locations to vent smoke from the story in a fire situation.

If the openings in the exterior wall are located without regard to the location of adjacent openings, it is possible that segments of the exterior wall are not provided with the required access to the interior of the building for fire-fighting purposes. Any arrangement of required stairways, ramps or openings that results in a portion of the wall 50 feet or more in length with no openings to the exterior does not meet the intent of the code that access be provided in each 50 lineal feet.

Section 2306.6.1.1 Number of Doors Required

Q: Where fire department access doors are required by Table 2306.2, Section 2306.6.1.1 requires the doors to be provided in each 100 lineal feet of exterior wall, or fraction thereof. Are the access doors required to be located such that the maximum distance between each door does not exceed 100 lineal feet?

A: Yes. The required openings must be distributed such that the lineal distance between adjacent openings does not exceed 100 feet.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides needed clarification to the code based on published ICC interpretations on these sections.

Assembly Action:

None

Final Hearing Results

F90-06/07

AS

Code Change No: F96-06/07

Original Proposal

Sections: 903.3.1.2.1 (IBC [F] 903.3.1.2.1)

Proponent: Kevin Kelly, National Fire Sprinkler Association

Revise as follows:

903.3.1.2.1 Balconies and decks. Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units where the building is of Type V construction, provided there is a roof or deck above. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

Reason: This will clarify that these exterior sprinklers are to be installed below a roof or deck above. For the sprinkler to operate correctly they must have a roof to collect the heat and fuse the sprinkler open, otherwise the sprinkler would be of limited value and could potentially decrease the reliability of the interior sprinkler system. This appears to be the intent of this section since it provides sprinkler installation procedures below structural members and decks.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal will clarify the intent of the code on the need for a deck above the sprinkler to facilitate its operation.

Assembly Action:**None**

Final Hearing Results

F96-06/07

AS

Code Change No: F99-06/07

Original Proposal

Sections: 903.4, 903.4.1 (IBC [F] 903.4, [F] 903.4.1)**Proponent:** Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee**Revise as follows:**

903.4 Sprinkler system ~~monitoring~~ supervision and alarms. All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit.

Exceptions:

1. Automatic sprinkler systems protecting one- and two-family dwellings.
2. Limited area systems serving fewer than 20 sprinklers.
3. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the automatic sprinkler system, and a separate shutoff valve for the automatic sprinkler system is not provided.
4. Jockey pump control valves that are sealed or locked in the open position.
5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position.
6. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.
7. Trim valves to pressure switches in dry, preaction and deluge sprinkler systems that are sealed or locked in the open position.

903.4.1 ~~Signals Monitoring.~~ Signals Monitoring. Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote supervising station or proprietary supervising station ~~as defined in NFPA 72~~ or, when approved by the fire code official, shall sound an audible signal at a constantly attended location.

Exceptions:

1. Underground key or hub valves in roadway boxes provided by the municipality or public utility are not required to be monitored.
2. Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position. In occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: Clarifies the equipment requirements for supervision and monitoring of fire sprinkler systems. Reference to NFPA 72 is unnecessary because of the required approval for central, remote or proprietary stations.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will clarify the intent of the code as to how sprinkler systems are to be supervised.

Assembly Action:

None

Final Hearing Results

F99-06/07

AS

Code Change No: F102-06/07

Original Proposal

Sections: 904.11.6.3, 904.11.6.3.1 through 904.11.6.3.3 (New)

Proponent: Daniel E. Nichols, New York State Department of State

1. Revise as follows:

904.11.6.3 Cleaning. ~~Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease as required by this section. Cleanings shall be recorded, and records shall state the extent, time and date of cleaning. Such records shall be maintained on the premises.~~

2. Add new text as follows:

904.11.6.3.1 Inspection. Hoods, grease-removal devices, fans, ducts, and other appurtenances shall be inspected at intervals specified in Table 904.11.6.3.1. Inspections shall be by completed by qualified individuals or by the fire code official.

**TABLE 904.11.6.3.1
COMMERCIAL COOKING SYSTEM INSPECTION FREQUENCY**

TYPE OF COOKING OPERATIONS	FREQUENCY OF INSPECTION
<u>High-volume cooking operations such as 24-hour cooking, charbroiling, or wok cooking</u>	<u>3 months</u>
<u>Low-volume cooking operations such as places of religious worship, seasonal businesses, and senior centers</u>	<u>12 months</u>
<u>Cooking operations utilizing solid-fuel burning cooking appliances</u>	<u>1 month</u>
<u>All other cooking operations</u>	<u>6 months</u>

904.11.6.3.2 Cleaning. If during the inspection it is found that hoods, grease-removal devices, fans, ducts, or other appurtenances have an accumulation of grease, such components shall be cleaned.

904.11.6.3.3 Records. Each inspection or cleaning shall be recorded and a copy of such shall be maintained on premises. Records for inspections shall state the individual performing the inspection, a description of the inspection, and when the inspection took place. Records for cleanings shall state the individual performing the cleaning and when the cleaning took place. Such records shall be maintained on the premises for a minimum of three years and be copied to the fire code official upon request.

Reason: The purpose of this code change proposal is to assist the fire code official by placing specific requirements for hoods and duct inspections within the IFC.

The IFC currently does not provide specific information on when kitchen hood systems need to be inspected. The current language states that hoods need to be inspected when grease accumulates. How does the fire code official know when this happens? It is clear that the intent of the section is to require a periodic inspection of kitchen hood systems. This is further supported by NFPA data that shows one-half of fires in assembly occupancies are caused by cooking appliances and 7% of all injuries are caused from a fire that started in the hood and duct system.

In the previous cycle, a similar proposal submitted by the proponent was denied. The previous proposal was scoped to add a reference to NFPA 96 for the inspection and maintenance provisions. Fire code officials voiced their concern that the requirements that fire code officials will enforce in the field need to be in the IFC, not a reference standard. Taking an approach to meet the needs of fire code officials, this proposal places the specific requirements right into the IFC.

It is the intent of the new proposal to give guidance to fire code officials for requiring periodic inspections of kitchen hood systems (based on use), direct requirements on cleaning when found to be deficient, and definitive records development and retention.

Bibliography: NFPA-Fire Loss Data of Assembly Occupancies, NFPA 96

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee generally agreed with the concept of the proposal but felt that it contains vague and subjective language that could result in inconsistent enforcement. In Section 904.11.6.3.1, it is unclear who would be considered “qualified individuals” and whether that would include the fire code official. In Section 904.11.6.3.2, cleaning would be required if hoods, etc. “have an accumulation of grease” but it is unclear what that means since there will always be a certain amount of grease in the system. In Section 904.11.6.3.3, the name of the cleaning firm should also be included. A concern was also expressed that having a fixed cleaning schedule could be problematic since some cooking operations could seasonally vary in the amount of grease produced and thus the inspection frequency needed.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Daniel E. Nichols, PE, New York State Department of State, requests Approval as Modified by this public comment.

Modify proposal as follows:

904.11.6.3.1 Inspection. Hoods, grease-removal devices, fans, ducts, and other appurtenances shall be inspected at intervals specified in Table 904.11.6.3.1 or as approved by the fire code official. Inspections shall be by completed by qualified individuals ~~or by the fire code official~~.

904.11.6.3.3 Records. ~~Each inspection or cleaning shall be recorded and a copy of such shall be maintained on premises.~~ Records for inspections shall state the individual and company performing the inspection, a description of the inspection, and when the inspection took place. Records for cleanings shall state the individual and company performing the cleaning and when the cleaning took place. Such records shall be completed after each inspection or cleaning, maintained on the premises for a minimum of three years, and be copied to the fire code official upon request.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: At the hearings in Orlando, the IFC code development committee generally agreed that a code section that gave further direction on hood cleaning was needed. This public comment addresses the concerns of the committee as well as the comments from the floor:

1. Section 904.11.6.3.1 was modified to include the phrase “or as approved by the fire code official” to allow AHJ’s to alter the inspection schedule based on specific conditions. The specific conditions that were mentioned were mainly based on irregular cooking frequencies, such as seasonal uses and religious groups. However, the seasonal use frequency in the table was left as a guidance tool for code users that do not set a different frequency in their jurisdiction.
2. Section 904.11.6.3.1 was modified to remove ‘fire code official’ from the qualified individuals sentence; returning the qualification requirements back to those found within the current IFC.
3. One comment was stated regarding ‘What does the accumulation of grease mean?’ This language is currently in the IFC and the intention of the original code change proposal was not to change the conditions of when hood gets cleaned.
4. One comment regarded that the company, in addition to the individual, shall be added as part of the record requirement. Section 904.11.6.3.3 has been modified to address this concern.

I trust that the membership will consider this public comment and recognize the necessity for this code change proposal. This is supported by NFPA data that shows one-half of fires in assembly occupancies are caused by cooking appliances and 7% of all injuries are caused from a fire that started in the hood and duct system.

It is still the intent that the hood inspection and cleaning requirements, including any changes made here, be moved to Chapter 6. This move was already approved in F55-06/07.

Final Hearing Results

F102-06/07

AMPC1

Code Change No: F104-06/07

Original Proposal

Sections: 905.3.3 (IBC [F] 905.3.3)

Proponent: Daniel E. Nichols, New York State Department of State

Revise as follows:

905.3.3 Covered mall buildings. A covered mall building shall be equipped throughout with a standpipe system where required by Section 905.3.1. Covered mall buildings not required to be equipped with a standpipe system by Section 905.3.1 shall be equipped with Class I hose connections connected to a the automatic sprinkler system sized to deliver water at 250 gallons per minute (946.4 L/min) at the most hydraulically remote outlet while concurrently supplying the automatic sprinkler system demand. Hose connections shall be provided at each of the following locations:

1. Within the mall at the entrance to each exit passageway or corridor.
2. At each floor-level landing within enclosed stairways opening directly on the mall.
3. At exterior public entrances to the mall.

Reason: The purpose of this code change proposal is to clearly define the 'system' the hose connections need to be connected to as well as a more definitive water supply requirement for covered mall buildings utilizing this section.

The intent of the section is to not require the spacing and additional water flow requirements found in NFPA 14 for a single (or two) story mall. The section permits hose connection valves to be placed on a 'system' but doesn't specifically state 'automatic sprinkler system.' This code change clarifies that the hose connections are required to be connected to the building's required automatic sprinkler system. If this section was ever interpreted to utilize another system, such as the domestic water system, the fire code official may not be able to apply the inspection requirements of NFPA 25 to it since it is not a standpipe nor sprinkler system.

The additional revision to add 'while concurrently supplying the automatic sprinkler system' ensures that the design does not create a condition where firefighting operations diminish the flow to the automatic sprinkler system. Without providing a specific pressure requirement, this proposal also provides the hose connections with a minimum pressure condition.

The State of New York has utilized this covered mall provision since its adoption in 2002. The provision has been working well in New York but the current language is problematic to fire code officials since the intent is to provide hose connections from the sprinkler system piping. These changes will provide a more useful system to firefighters and clear direction for fire code officials doing inspections.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal improves correlation with NFPA 14, provides clarification of what type of system the hose connection must be connected to and improves the water supply to supply both hose station and sprinkler demand.

Assembly Action:

None

Final Hearing Results

F104-06/07

AS

Code Change No: **F105-06/07**

Original Proposal

Sections: 905.6.2 (IBC [F] 905.6.2)

Proponent: Kevin Kelly, National Fire Sprinkler Association

Revise as follows:

905.6.2 Interconnection. In buildings where more than one Class III standpipe is provided, the standpipes shall be interconnected ~~at the bottom~~ in accordance with NFPA 14.

Reason: NFPA 14 requires standpipes to be interconnected close to the water source. This may not necessarily be at the bottom. For example the water source could be at the ground floor or at the top if the water supply is a water tank on the roof. This proposed language will also coordinate with Section 905.4.2.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will provide correlation with the referenced standard, NFPA 14, and provides flexibility regarding the location of standpipe riser interconnection.

Assembly Action:

None

Final Hearing Results

F105-06/07

AS

Code Change No: **F118-06/07**

Original Proposal

Sections: 907.10.1 (IBC [F] 907.9.1)

Proponent: Dave Frable, U.S. General Services Administration

Revise as follows:

907.10.1 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.10.1.1 through 907.10.1.4.

Exceptions:

1. Visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.
2. Visible alarm notification appliances shall not be required in exits as defined in Section 1002.1.
3. Visible alarm notification appliances shall not be required in elevator cars.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: It has come to our attention that several jurisdictions across the country have been requiring visible alarm notification appliances to be installed in elevator cars since there is no exception in the IFC or the NFPA 72, *National Fire Alarm Code* for not installing this type of notification appliance in elevator cars. This code proposal will eliminate any confusion regarding the need to install visible notification appliances in elevator cars. The rationale for not installing visible notification appliances in elevator cars is the same as for exit enclosures; high light intensity from these notification appliances may cause confusion and disorientation. Last but not least, the NFPA 72 Technical Committee on Protected Premise Fire Alarm Systems is also trying to eliminate any confusion with regard to where visible notification appliances are required to be installed in buildings and has also proposed to add new text in the next edition of NFPA 72 that would state “visible signals shall not be required in elevator cars”.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will provide clarification regarding where visible alarm notification appliances are not required and will also provide better correlation with NFPA 72.

Assembly Action:

None

Final Hearing Results

F118-06/07

AS

Code Change No: F120-06/07

Original Proposal

Sections: 907.12 (IBC [F] 907.11); IMC 606.4.1

Proponent: Gregory G. Victor, Fire Department, Glendale, AZ, representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IFC AND THE IMC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFC

Revise as follows:

907.12 Duct smoke detectors. Duct smoke detectors shall be connected to the building's fire alarm control panel when a fire alarm system is ~~provided~~ required by section 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location. Duct smoke detectors shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

PART II – IMC

Revise as follows:

606.4.1 Supervision. The duct smoke detectors shall be connected to a fire alarm system when a fire alarm system is required by Section 907.2 of the *International Fire Code*. The actuation of a duct smoke detector shall activate a visible and audible supervisory signal at a constantly attended location.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where the duct smoke detector activates the building's alarm-indicating appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Duct smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

Reason: To coordinate IFC Section 907.12 with IFC Section 907.11 and IMC Section 606.4.1.

Section 907.11 reads: "907.11 Fire safety functions. Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control panel where a fire alarm system is required by Section 907.2 (emphasis added). Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or activate a visible and audible supervisory signal at a constantly attended location. In buildings not required to be equipped with a fire alarm system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72."

Section 907.11 makes it clear that it is the intent of the IFC that fire safety functions shall be connected to a fire alarm system only when Section 907.2 requires a system. The function of the duct smoke detector is to shut down the air handler and send a "hey Joe" supervisory signal so that someone knows something is up. The current language in the 907.12 and IMC 606.4.1 is confusing by simply calling out a fire alarm system, even though exception 2 hints at the fire alarm requirement when it reads in part "In occupancies not required to be equipped with a fire alarm system..." We have received numerous questions regarding when this connection must be made and what constitutes a fire alarm system.

This proposal clarifies the intent of the code and clarifies the requirement for the user by duplicating the appropriate portion of the language found in 907.11 in these two sections.

Cost Impact: The code change proposal may slightly increase the cost of construction where no fire alarm is required.

Final Hearing Results

PART I – IFC**Committee Action:****Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the intent of the code and correlates IFC Sections 907.12 and 907.11.

Assembly Action:**None****PART II – IMC****Committee Action:****Approved as Submitted**

Committee Reason: The proposed change provides a reference to the appropriate section of the *International Fire Code* for guidance on when a fire alarm is required.

Assembly Action:**None**

Final Hearing Results

F120-06/07, Part I	AS
F120-06/07, Part II	AS

Code Change No: **F122-06/07**

Original Proposal

Sections: 907 (IBC [F] 907)

Proponent: Gene Boecker, Code Consultants, Inc.

THIS PROPOSAL IS ON THE AGENDA OF THE IFC AND THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFC

Revise and reorganize section as follows:

**SECTION 907
FIRE ALARM AND DETECTION SYSTEMS**

907.1 General. This section covers the application, installation, performance and maintenance of fire alarm systems and their components in new and existing buildings and structures. The requirements of Section 907.2 are applicable to new buildings and structures. The requirements of Section 907.3 are applicable to existing buildings and structures as follows:

1. The requirements of Section 907.2 are applicable to new buildings and structures.
2. The requirements of Section 907.3 are applicable to existing buildings and structures.

907.1.1 ~~Construction documents~~ Shop drawings. ~~Construction documents~~ Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation. ~~Construction documents~~ shop drawings shall include, but not be limited to, all of the following:

1. A floor plan which indicates the use of all rooms.
2. Locations of alarm-initiating and notification appliances.
3. ~~Alarm control and trouble signaling equipment.~~ Location of fire alarm control unit, transponders, and notification power supplies.
4. ~~Annunciation.~~ Annunciators.
5. Power connection.
6. Battery calculations.
7. Conductor type and sizes.
8. Voltage drop calculations.
9. ~~Manufacturers,~~ data sheets indicating model numbers and listing information for equipment, devices and materials.
10. Details of ceiling height and construction.
11. The interface of fire safety control functions.
12. Classification of the supervising station.

907.1.2 Equipment. Systems and their components shall be listed and approved for the purpose for which they are installed.

907.2 Where required—new buildings and structures. An approved manual, automatic or manual and automatic fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through ~~907.2.23~~ 907.2.21 and provide occupant notification in accordance with Section ~~907.40~~ 907.6, unless other requirements are provided by another section of this code. ~~Where automatic sprinkler protection installed in accordance with Section 903.3.1.1 or 903.3.1.2 is provided and connected to the building fire alarm system, automatic heat detection required by this section shall not be required.~~

~~The automatic fire detectors shall be smoke detectors. Where ambient conditions prohibit installation of automatic smoke detection, other automatic fire detection shall be allowed. A minimum of one manual fire alarm box shall be~~

provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Exception: The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group A occupancies having an occupant load of 300 or more. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the ~~alarm~~ occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.1.1 System initiation in Group A occupancies with an occupant load of 1,000 or more. Activation of the fire alarm in Group A occupancies with an occupant load of 1,000 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with ~~NFPA-72~~ Section 907.6.2.2.

Exception: Where approved, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an approved, constantly attended location.

907.2.1.2 Emergency power. (Relocated to Section 907.6.2.2.3)

907.2.2 Group B. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is ~~having an occupant load of~~ 500 or more, ~~persons or~~
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the ~~alarm~~ occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.3 Group E. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an occupant load of less than 50.
2. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
 - 2.1. Interior corridors are protected by smoke detectors ~~with alarm verification.~~
 - 2.2. Auditoriums, cafeterias, gymnasiums and ~~the like~~ similar areas are protected by heat detectors or other approved detection devices.
 - 2.3. Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
 - 2.4. ~~Off-premises monitoring is provided.~~
 - 2.5. 2.4. The capability to activate the evacuation signal from a central point is provided.
 - 2.6. 2.5. In buildings where normally occupied spaces are provided with a two-way communication system between such spaces and a constantly attended receiving station from where a general evacuation alarm can be sounded, except in locations specifically designated by the fire code official.
3. Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system, the notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.

907.2.4 Group F. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group F occupancies where both of the following conditions exist:

1. ~~The Group F occupancy is that are two or more stories in height; and~~
2. ~~The Group F occupancy has have an a combined~~ occupant load of 500 or more above or below the lowest level of exit discharge.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the alarm occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.5 Group H. A manual fire alarm system shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. An automatic smoke detection system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with Chapters 37, 39 and 40, respectively.

907.2.6 Group I. A manual fire alarm system shall be installed in Group I occupancies. An ~~electrically supervised,~~ automatic smoke detection system shall be provided in accordance with Sections 907.2.6.1 and 907.2.6.2.

Exception: Manual fire alarm boxes in resident or patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.4.4 907.5.2 are not exceeded.

907.2.6.1 Group I-1. ~~Corridors,~~ An automatic smoke detection system shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping units and kitchens, and waiting areas that are open to corridors shall be equipped with an automatic smoke detection system. The system shall be activated in accordance with Section 907.6.

Exceptions:

1. Smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system.
2. Smoke detection is not required for exterior balconies.

907.2.6.1.1 Smoke alarms. Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.10.

907.2.6.2 Group I-2. An automatic smoke detection system shall be installed in corridors in nursing homes (both intermediate care and skilled nursing facilities), detoxification facilities and spaces permitted to be open to the corridors by Section 407.2 of the *International Building Code* shall be equipped with an automatic fire detection system. The system shall be activated in accordance with Section 907.6. Hospitals shall be equipped with smoke detection as required in Section 407.2 of the *International Building Code*.

Exceptions:

1. Corridor smoke detection is not required in smoke compartments that contain patient sleeping units where patient sleeping units are provided with smoke detectors that comply with UL 268. Such detectors shall provide a visual display on the corridor side of each patient sleeping unit and shall provide an audible and visual alarm at the nursing station attending each unit.
2. Corridor smoke detection is not required in smoke compartments that contain patient sleeping units where patient sleeping unit doors are equipped with automatic door-closing devices with integral smoke detectors on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.

907.2.6.3 Group I-3 occupancies. Group I-3 occupancies shall be equipped with a manual and automatic fire alarm system installed for alerting staff.

907.2.6.3.1 System initiation. Actuation of an automatic fire-extinguishing system, a manual fire alarm box or a fire detector shall initiate an approved fire alarm signal which automatically notifies staff. ~~Pre-signal systems shall not be used.~~

907.2.6.3.2 Manual fire alarm boxes. Manual fire alarm boxes are not required to be located in accordance with Section ~~907.4~~ 907.5.2 where the fire alarm boxes are provided at staff-attended locations having direct supervision over areas where manual fire alarm boxes have been omitted.

Manual fire alarm boxes are allowed to be locked in areas occupied by detainees, provided that staff members are present within the subject area and have keys readily available to operate the manual fire alarm boxes.

907.2.6.3.3 Smoke detectors. An ~~approved~~ automatic smoke detection system shall be installed throughout resident housing areas, including sleeping units and contiguous day rooms, group activity spaces and other common spaces normally accessible to residents.

Exceptions:

1. Other approved smoke-detection arrangements providing equivalent protection, including, but not limited to, placing detectors in exhaust ducts from cells or behind protective guards listed for the purpose, are allowed when necessary to prevent damage or tampering.
2. Sleeping units in Use Conditions 2 and 3.
3. Smoke detectors are not required in sleeping units with four or fewer occupants in smoke compartments that are equipped throughout with an ~~approved~~ automatic sprinkler system.

907.2.7 Group M. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group M occupancies where one of the following conditions exists:

- ~~1. The combined Group M occupant load of all floors is having an occupant load of 500 or more persons, or~~
- ~~2. The Group M occupant load is more than 100 persons above or below the lowest level of exit discharge. The initiation of a signal from a manual fire alarm box shall initiate alarm notification appliances as required by Section 907.10.~~

Exceptions:

1. A manual fire alarm system is required in covered mall buildings complying with Section 402 of the *International Building Code*.
2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the ~~alarm occupant~~ notification appliances will automatically activate throughout the notification zones upon sprinkler water flow.

907.2.7.1 Occupant notification. During times that the building is occupied, the initiation of a signal from a manual fire alarm box or from a water flow switch shall not be required to activate the alarm notification appliances when an alarm signal is activated at a constantly attended location from which evacuation instructions shall be initiated over an emergency voice/alarm communication system installed in accordance with ~~Section 907.2.42.2~~ 907.6.2.2.

The emergency voice/alarm communication system shall be allowed to be used for other announcements, provided the manual fire alarm use takes precedence over any other use.

907.2.8 Group R-1. Fire alarm systems and smoke alarms shall be installed in Group R-1 occupancies as required in Sections 907.2.8.1 through 907.2.8.3.

907.2.8.1 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group R-1 occupancies.

Exceptions:

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual dwelling units or sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by at least 1-hour fire partitions and each individual dwelling unit or sleeping unit has an exit directly to a public way, exit court or yard.
2. Manual fire alarm boxes are not required throughout the building when the following conditions are met:
 - 2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 2.2. The notification appliances will activate upon sprinkler water flow; and
 - 2.3. At least one manual fire alarm box is installed at an approved location.

907.2.8.2 Automatic fire alarm system. An automatic fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed throughout all interior corridors serving dwelling units or sleeping units.

Exception: An automatic fire detection system is not required in buildings that do not have interior corridors serving dwelling units or sleeping units and where each dwelling unit or sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

907.2.8.3 Smoke alarms. ~~Single- and multiple-station smoke alarms shall be installed as required by in accordance with Section 907.2.10. In buildings that are not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the smoke alarms in sleeping units shall be connected to an emergency electrical system and shall be annunciated by sleeping unit at a constantly attended location from which the fire alarm system is capable of being manually activated.~~

907.2.9 Group R-2. Fire alarm systems and smoke alarms shall be installed in Group R-2 occupancies as required in Section 907.2.9.1 and 907.9.2.

907.2.9.1 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group R-2 occupancies where:

1. Any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge;
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit; or
3. The building contains more than 16 dwelling units or sleeping units.

Exceptions:

- ~~1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, exit court or yard.~~
- ~~2. 1. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the building when the following conditions are met:
2.1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2; and
2.2. The occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.~~
- ~~3. 2. A manual fire alarm system is not required in buildings not more than two stories in height that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1023.6, Exception 4.~~

907.2.9.2 Smoke alarms. Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.10.

907.2.10 Single- and multiple-station smoke alarms. Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with the provisions of this code Sections 907.1.10.1 through 907.2.10.4 and the household fire warning equipment provisions of NFPA 72.

907.2.10.1 Where required. ~~Single- or multiple-station smoke alarms shall be installed in the locations described in Sections 907.2.10.1.1 through 907.2.10.1.3.~~

907.2.10.1.4 907.2.10.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the dwelling unit or sleeping unit.
3. In each story within the dwelling unit or sleeping unit, including basements. For dwelling units or sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

907.2.10.1.2 907.2.10.2 Groups R-2, R-3, R-4 and I-1. Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.

Exception: Single- or multiple-station smoke alarms in Group I-1 shall not be required where smoke detectors are provided in the sleeping rooms as part of an automatic smoke detection system.

3. In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

~~907.2.10.1.3 Group I-1. Single or multiple station smoke alarms shall be installed and maintained in sleeping areas in Group I-1 occupancies.~~

~~Exception: Single or multiple station smoke alarms shall not be required where the building is equipped throughout with an automatic fire detection system in accordance with Section 907.2.6.~~

907.2.10.3 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Groups R-1, R-2, R-3 or R-4, ~~or within an individual sleeping unit in Group R-4,~~ the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

~~907.2.10.4 Acceptance testing.~~ (Relocated to Section 907.8.1)

~~907.2.10.2~~ **907.2.10.4 Power source.** In new construction, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery back-up shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are not required to be equipped with battery backup ~~in Group R-4~~ where they are connected to an emergency electrical system.

907.2.11 Special amusement buildings. An ~~approved~~ automatic smoke detection system shall be provided in special amusement buildings in accordance with this section.

Exception: In areas where ambient conditions will cause a smoke detection system to alarm, an approved alternative type of automatic fire detector shall be installed.

907.2.11.1 Alarm. Activation of any single smoke detector, the automatic sprinkler system or any other automatic fire detection device shall immediately sound an alarm at the building at a constantly attended location from which emergency action can be initiated, including the capability of manual initiation of requirements in Section 907.2.11.2.

907.2.11.2 System response. The activation of two or more smoke detectors, a single smoke detector with alarm verification, the automatic sprinkler system or other approved fire detection device shall automatically:

1. Cause illumination of the means of egress with light of not less than 1 foot-candle (11 lux) at the walking surface level;
2. Stop any conflicting or confusing sounds and visual distractions; ~~and~~
3. Activate an approved directional exit marking that will become apparent in an emergency; ~~and~~
4. ~~Such system response shall also include activation of~~ Activate a prerecorded message, clearly audible throughout the special amusement building, instructing patrons to proceed to the nearest exit. Alarm signals used in conjunction with the prerecorded message shall produce a sound which is distinctive from other sounds used during normal operation.

~~The wiring to the auxiliary devices and equipment used to accomplish the above fire safety functions shall be monitored for integrity in accordance with NFPA 72.~~

907.2.11.3 Emergency voice/alarm communication system. An emergency voice/alarm communication system, which is also allowed to serve as a public address system, shall be installed in accordance with NFPA 72 Section 907.6.2.2 and be audible throughout the entire special amusement building.

907.2.12 High-rise buildings. Buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section ~~907.2.12.2~~ 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 907.2.22 and Section 412 of the *International Building Code*.
2. Open parking garages in accordance with Section 406.3 of the *International Building Code*.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *International Building Code*.
4. Low-hazard special occupancies in accordance with Section 503.1.1 of the *International Building Code*.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415 of the *International Building Code*.
6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the paging system.

907.2.12.1 Automatic fire detection. Smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section shall operate the emergency voice/alarm communication system. Smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room which is not provided with sprinkler protection, elevator machine rooms, and in elevator lobbies.
2. In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m³/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet.
3. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies, a ~~listed~~ smoke detector is allowed to be used in each return-air riser carrying not more than 5,000 cfm (2.4m³/s) and serving not more than 10 air-inlet openings.

~~**907.2.12.2 Emergency voice/alarm communication system.**~~ (Relocated to Section 907.6.2.2)

~~**907.2.12.2.1 Manual override.**~~ (Relocated to Section 907.6.2.2.1)

~~**907.2.12.2.2 Live voice messages.**~~ (Relocated to Section 907.6.2.2.2)

~~**907.2.12.2.3 Standard.**~~ (Relocated to Section 907.6.2.2)

907.2.12.3 907.2.12.2 Fire department communication system. An approved two-way, fire department communication system designed and installed in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed exit stairway.

Exception: Fire department radio systems where approved by the fire department.

907.2.13 Atriums connecting more than two stories. A fire alarm system shall be installed in occupancies with an atrium that connects more than two stories. The system shall be activated in accordance with Section ~~907.7~~ 907.6. Such occupancies in Group A, E or M shall be provided with an emergency voice/alarm communication system complying with the requirements of Section ~~907.2.12.2~~ 907.6.2.2.

907.2.14 High-piled combustible storage areas. An automatic fire detection system shall be installed throughout high-piled combustible storage areas where required by Section 2306.5.

~~**907.2.15 Delay egress locks.**~~ (Relocated to Section 907.4.2)

~~**907.2.16**~~ **907.2.15 Aerosol storage uses.** Aerosol storage rooms and general-purpose warehouses containing aerosols shall be provided with an approved manual fire alarm system where required by this code.

~~**907.2.17**~~ **907.2.16 Lumber, wood structural panel and veneer mills.** Lumber, wood structural panel and veneer mills shall be provided with a manual fire alarm system.

907.2.18 907.2.17 Underground buildings with smoke exhaust control systems. Where a smoke exhaust control system is installed in an underground building in accordance with the *International Building Code*, automatic fire detectors shall be provided in accordance with this section.

907.2.18.4 907.2.17.1 Smoke detectors. A minimum of one smoke detector listed for the intended purpose shall be installed in the following areas:

1. Mechanical equipment, electrical, transformer, telephone equipment, elevator machine or similar rooms.
2. Elevator lobbies.
3. The main return and exhaust air plenum of each air-conditioning system serving more than one story and located in a serviceable area downstream of the last duct inlet.
4. Each connection to a vertical duct or riser serving two or more floors from return air ducts or plenums of heating, ventilating and air-conditioning systems, except that in Group R occupancies, a listed smoke detector is allowed to be used in each return-air riser carrying not more than 5,000 cfm (2.4 m³/s) and serving not more than 10 air inlet openings.

907.2.18.2 907.2.17.2 Alarm required. Activation of the smoke exhaust control system shall activate an audible alarm at a constantly attended location.

907.2.19 907.2.17.3 Deep underground buildings. Where the lowest level of a structure is more than 60 feet (18 288 mm) below the lowest level of exit discharge, the structure shall be equipped throughout with a manual fire alarm system, including an emergency voice/alarm communication system installed in accordance with Section 907.2.12.2 907.6.2.2.

907.2.19.4 907.2.17.3.1 Public address system. Where a fire alarm system is not required by Section 907.2, a public address system shall be provided which shall be capable of transmitting voice communications to the highest level of exit discharge serving the underground portions of the structure and all levels below.

907.2.20 907.2.18 Covered mall buildings. Covered mall buildings exceeding 50,000 square feet (4645 m²) in total floor area shall be provided with an emergency voice/alarm communication system. An emergency voice/alarm communication system serving a mall, required or otherwise, shall be accessible to the fire department. The system shall be provided in accordance with Section 907.2.12.2 907.6.2.2.

907.2.24 907.2.19 Residential aircraft hangars. A minimum of one listed single-station smoke alarm shall be installed within a residential aircraft hangar as defined in the *International Building Code* and shall be interconnected into the residential smoke alarm or other sounding device to provide an alarm which will be audible in all sleeping areas of the dwelling.

907.2.22 907.2.20 Airport traffic control towers. An automatic fire detection system that activates the occupant notification system in accordance with Section 907.6 shall be provided in airport traffic control towers in all occupiable spaces.

907.2.23 907.2.21 Battery rooms. An approved automatic smoke detection system shall be installed in areas containing stationary storage battery systems having with a liquid capacity of more than 50 gallons (189 L). The detection system shall activate a local alarm signal at a constantly attended location or shall be supervised by an approved central, proprietary, or remote station service or a local alarm which will sound an audible signal at a constantly attended location.

907.3 Where required—retroactive in existing buildings and structures. An approved manual, automatic or manual and automatic fire alarm system shall be installed in existing buildings and structures in accordance with Sections 907.3.1 through 907.3.1.8 and provide occupant notification in accordance with Section 907.6 unless other requirements are provided by other sections of this code. Where automatic sprinkler protection is provided in accordance with Section 903.3.1.1 or 903.3.1.2 and connected to the building fire alarm system, automatic heat detection required by this section shall not be required.

An approved automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Devices, combinations of devices, appliances and equipment shall be approved. The automatic fire detectors shall be smoke detectors, except an approved alternative type of detector shall be installed in spaces such as boiler rooms where, during normal operation, products of combustion are present in sufficient quantity to actuate a smoke detector.

907.3.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 907.3.1.1 through 907.3.1.8.

~~**Exception:** Occupancies with an existing, previously approved fire alarm system.~~

907.3.1.4 907.3.1 Group E. A fire alarm system shall be installed in existing Group E occupancies in accordance with Section 907.2.3.

Exceptions:

1. A manual fire alarm system is not required in a building with a maximum area of 1,000 square feet (93 m²) that contains a single classroom and is located no closer than 50 feet (15 240 mm) from another building.
2. A manual fire alarm system is not required in Group E with an occupant load less than 50.

907.3.2 Group I. A fire alarm system shall be installed in existing Group I occupancies in accordance with Sections 907.3.2.1 through 907.3.2.3.

Exception: Manual fire alarm boxes in resident or patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.5.2 are not exceeded.

907.3.1.2 907.3.2.1 Group I-1. An automatic or manual fire alarm system shall be installed in existing Group I-1 residential care/assisted living facilities in accordance with Section 907.2.6.1.

Exception: Where each sleeping room has a means of egress door opening directly to an exterior egress balcony that leads directly to the exits in accordance with Section 1014.5, and the building is not more than three stories in height.

907.3.1.3 907.3.2.2 Group I-2. An automatic or manual fire alarm system shall be installed in existing Group I-2 occupancies in accordance with Section 907.2.6.2.

907.3.1.4 907.3.2.3 Group I-3. An automatic or manual fire alarm system shall be installed in existing Group I-3 occupancies in accordance with Section 907.2.6.3.

907.3.3 Group R. A fire alarm system and smoke alarms shall be installed in existing Group R occupancies in accordance with Sections 907.3.3.1 through 907.3.3.4.

907.3.1.5 907.3.3.1 Group R-1 hotels and motels. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels more than three stories or with more than 20 dwelling units or sleeping units.

Exception: Buildings less than two stories in height where all dwelling units or sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each dwelling unit or sleeping unit has direct access to a public way, exit court or yard.

907.3.1.6 907.3.3.2 Group R-1 boarding and rooming houses. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 boarding and rooming houses.

Exception: Buildings that have single-station smoke alarms meeting or exceeding the requirements of Section 907.2.10.1 and where the fire alarm system includes at least one manual fire alarm box per floor arranged to initiate the alarm.

907.3.1.7 907.3.3.3 Group R-2. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 dwelling units or sleeping units.

Exceptions:

1. Where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 0.75 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade.

2. A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1023.6, Exception 4.

907.3.1.8 907.3.3.4 Group R-4. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-4 residential care/assisted living facilities.

Exceptions:

1. Where there are interconnected smoke alarms meeting the requirements of Section 907.2.10 and there is at least one manual fire alarm box per floor arranged to sound continuously the smoke alarms.
2. Other manually activated, continuously sounding alarms approved by the fire code official.

907.3.2 9097.3.4 Single- and multiple-station smoke alarms. Single- and multiple-station smoke alarms shall be installed in existing Group R occupancies in accordance with Sections ~~907.3.2.1~~ 907.3.4.1 through ~~907.3.2.3~~ 907.3.4.3.

~~907.3.2.1~~ 907.3.4.1 General Where required. Existing Group R occupancies not already provided with single-station smoke alarms shall be provided with ~~approved~~ single-station smoke alarms. Installation shall be in accordance with Section 907.2.10, except as provided in Sections ~~907.3.2.2~~ 907.3.4.2 and ~~907.3.2.3~~ 907.3.4.3.

~~907.3.2.2~~ 907.3.4.2 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R-1, R-2, R-3 or R-4, ~~or within an individual sleeping unit in Group R-4,~~ the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

Exceptions:

1. Interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind.
2. Smoke alarms in existing areas are not required to be interconnected where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for interconnection without the removal of interior finishes.

~~907.3.2.3~~ 907.3.4.3 Power source. In Group R occupancies, single-station smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery back-up shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are permitted to be solely battery operated: in existing buildings where no construction is taking place; in buildings that are not served from a commercial power source; and in existing areas of buildings undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for building wiring without the removal of interior finishes.

907.4 Manual fire alarm boxes. (Relocated to Section 907.5.2)

907.4.1 Location. (Relocated to Section 907.5.2.1)

907.4.2 Height. (Relocated to Section 907.5.2.2)

907.4.3 Color. (Relocated to Section 907.5.2.3)

907.4.4 Signs. (Relocated to Section 907.5.2.4)

907.4.5 Protective covers. (Relocated to Section 907.5.2.5)

907.5 Power supply. (Relocated to Section 907.7.2)

~~907.6 Wiring.~~ (Relocated to Section 907.7.1)

~~907.7 Activation.~~ (Relocated to Section 907.6)

~~907.8 Presignal system.~~ (Relocated to Section 907.6.1)

~~907.9 Zones.~~ (Relocated to Section 907.7.3)

~~907.9.1 Zoning indicator panel.~~ (Relocated to Section 907.7.3.1)

~~907.9.2 High-rise buildings.~~ (Relocated to Section 907.7.3.2)

~~907.10 Alarm notification appliances.~~ (Relocated to Section 907.6.2)

~~907.10.1 Visible alarms.~~ (Relocated to Section 907.6.2.3)

~~907.10.1.1 Public and common areas.~~ (Relocated to Section 907.6.2.3.1)

~~907.10.1.2 Employee work areas.~~ (Relocated to Section 907.6.2.3.2)

~~907.10.1.3 Groups I-1 and R-1.~~ (Relocated to Section 907.6.2.3.3)

~~Table 907.10.1.3 Visible and Audible Alarms~~ (Relocated to Table 907.6.2.3.3)

~~907.10.1.4 Group R-2.~~ (Relocated to Section 907.6.2.3.4)

~~907.10.2 Audible alarms.~~ (Relocated to Section 907.6.2.1)

907.11 907.4 Fire safety functions. Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control panel unit where a fire alarm system is required by Section 907.2 provided. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or activate a visible and audible supervisory signal at a constantly attended location. In buildings not required to be equipped with a fire alarm system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72.

907.12 907.4.1 Duct smoke detectors. Duct smoke detectors shall be connected to the building's fire alarm control panel unit when a fire alarm system is provided. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location. Duct smoke detectors shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

~~907.13 Access.~~ (Relocated to Section 907.7.4)

~~907.14 Fire extinguishing systems.~~ (Relocated to Section 907.6(4))

~~907.15 Monitoring.~~ (Relocated to Section 907.7.5)

~~907.16 Automatic telephone dialing devices.~~ (Relocated to Section 907.7.5.1)

~~907.17 Acceptance tests.~~ (Relocated to Section 907.8)

~~907.18 Record of completion.~~ (Relocated to Section 907.8.2)

~~907.19 Instructions.~~ (Relocated to Section 907.8.3)

~~907.20 Inspection, testing and maintenance.~~ (Relocated to Section 907.9)

~~907.20.1 Maintenance required.~~ (Relocated to Section 907.9.1)

~~907.20.2 Testing.~~ (Relocated to Section 907.9.2)

~~907.20.3 Detection sensitivity.~~ (Relocated to Section 907.9.3)

~~907.20.4 Method.~~ (Relocated to Section 907.9.4)

~~907.20.4.1 Testing device.~~ (Relocated to Section 907.9.4.1)

~~907.20.5 Maintenance, inspection and testing.~~ (Relocated to Section 907.9.5)

907.2.15 907.4.2 Delayed egress locks. Where delayed egress locks are installed on means of egress doors in accordance with Section 1008.1.8.6, an automatic smoke or heat detection system shall be installed as required by that section.

907.4.3 Elevator emergency operation. Automatic fire detectors installed for elevator emergency operation shall be installed in accordance with the provisions of ASME A17.1 and NFPA 72.

907.4.4 Wiring. The wiring to the auxiliary devices and equipment used to accomplish the above fire safety functions shall be monitored for integrity in accordance with NFPA 72.

907.5 Initiating devices. Where manual or automatic alarm initiation is required as part of a fire alarm system, the initiating devices shall be installed in accordance with Sections 907.5.1 through 907.5.4.

907.5.1 Protection of fire alarm control unit. In areas that are not continuously occupied, a single smoke detector shall be provided at the location of each fire alarm control unit.

Exception: Where ambient conditions prohibit installation of smoke detector, a heat detector shall be permitted.

907.4 907.5.2 Manual fire alarm boxes. Where a manual fire alarm system is required by another section of this code, it shall be activated by fire alarm boxes shall be installed in accordance with Sections 907.4.4 907.5.2.1 through 907.4.5 907.5.2.5.

907.4.1 907.5.2.1 Location. Manual fire alarm boxes shall be located not more than 5 feet (1524 mm) from the entrance to each exit. Additional manual fire alarm boxes shall be located so that travel distance to the nearest box does not exceed 200 feet (60 960 mm).

907.4.2 907.5.2.2 Height. The height of the manual fire alarm boxes shall be a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1372 mm) measured vertically, from the floor level to the activating handle or lever of the box.

907.4.3 907.5.2.3 Color. Manual fire alarm boxes shall be red in color.

907.4.4 907.5.2.4 Signs. Where fire alarm systems are not monitored by a supervising station, an approved permanent sign shall be installed adjacent to each manual fire alarm box that reads: WHEN ALARM SOUNDS—CALL FIRE DEPARTMENT.

Exception: Where the manufacturer has permanently provided this information on the manual fire alarm box.

907.4.5 907.5.2.5 Protective covers. The fire code official is authorized to require the installation of listed manual fire alarm box protective covers to prevent malicious false alarms or to provide the manual fire alarm box with protection from physical damage. The protective cover shall be transparent or red in color with a transparent face to permit visibility of the manual fire alarm box. Each cover shall include proper operating instructions. A protective cover that emits a local alarm signal shall not be installed unless approved. Protective covers shall not project more than that permitted by Section 1003.3.3 of the *International Building Code*.

907.5.3 Automatic detection. The automatic fire detectors shall be smoke detectors. Where ambient conditions prohibit installation of smoke detectors, other approved automatic fire detection shall be permitted. Where automatic sprinkler protection installed in accordance with Section 903.3.1.1 or 903.3.1.2 is provided and connected to the building fire alarm system, automatic heat detection required by this section shall not be required.

907.7 Activation 907.6 Alarm notification systems. A fire alarm system shall annunciate at the panel and shall initiate occupant notification upon activation, in accordance with this section. Where an a fire alarm notification system is required by another section of this code provided, it shall be activated by:

1. Required Automatic fire alarm system detectors.
2. Sprinkler water-flow devices.
3. Required Manual fire alarm boxes.
4. Automatic fire-extinguishing systems.

Exceptions:

1. Occupant notification is not required for fire detectors used to control fire safety functions in accordance with Section 907.4.
2. Where notification systems are permitted elsewhere in this section to annunciate at a constantly attended location.
3. Where a dedicated function fire alarm system is installed exclusively to transmit waterflow signals to a remote monitoring location, a single audible alarm notification device, in accordance with Section 903.4.2, shall be installed in the vicinity of the manual fire alarm box to activate upon detection of waterflow or upon activation of the manual fire alarm box.

907-8 907.6.1 Presignal system feature. Presignal systems feature shall not be installed unless approved by the fire code official and the fire department. Where a presignal system feature is installed provided, 24-hour personnel supervision shall be provided at a signal shall be annunciated at a constantly attended location approved by the fire department, in order that the alarm signal occupant notification can be actuated activated in the event of fire or other emergency.

907-10 907.6.2 Alarm notification appliances. Alarm notification appliances shall be provided and shall be listed for their purpose.

907-10-2 907.6.2.1 Audible alarms. Audible alarm notification appliances shall be provided and sound a distinctive sound that is not to be used for any purpose other than that of a fire alarm.

Exception: Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical care areas of Group I-2 occupancies.

907-10-2 907.6.2.1.1 Average sound pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupied space within the building. The minimum sound pressure levels shall be: 70 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies.

907-10-2 907.6.2.1.2 Maximum sound pressure. The maximum sound pressure level for audible alarm notification appliances shall be 420 110 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than 105 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

907-2-12-2.3 Standard. 907.6.2.2 Emergency voice/alarm communication system. The emergency voice/alarm communication system shall be designed and installed in accordance with NFPA 72. ~~907-2-12-2 Emergency voice/alarm communication system.~~ The operation of any automatic fire detector, sprinkler water-flow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation on a minimum of the alarming floor, the floor above and the floor below in accordance with the building's fire safety and evacuation plans required by Section 404. Speakers shall be provided throughout the building by paging zones. As a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Exit stairways.
3. Each floor.
4. Areas of refuge as defined in Section 1002.1.

907-2-12-2.4 907.6.2.2.1 Manual override. A manual override for emergency voice communication shall be provided on a selective and all-call basis for all paging zones.

907-2-12-2.2 907.6.2.2.2 Live voice messages. The emergency voice/alarm communication system shall also have the capability to broadcast live voice messages through by paging zones on a selective and all-call basis.

907-2-1-2 907.6.2.2.3 Emergency power. Emergency voice/alarm communications systems shall be provided with an approved emergency power source.

907-10-4 907.6.2.3 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907-10-1-4 907.6.2.3.1 through 907-10-1-4 907.6.2.3.4.

Exceptions:

1. Visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.
2. Visible alarm notification appliances shall not be required in exits as defined in Section 1002.1.

907-10-1-4 907.6.2.3.1 Public and common areas. Visible alarm notification appliances shall be provided in public areas and common areas.

907.10.1.2 907.6.2.3.2 Employee work areas. Where employee work areas have audible alarm coverage, the notification appliance circuits serving the employee work areas shall be initially designed with a minimum of 20 percent spare capacity to account for the potential of adding visible notification appliances in the future to accommodate hearing impaired employee(s).

907.10.1.3 907.6.2.3.3 Groups I-1 and R-1. Group I-1 and R-1 dwelling units or sleeping units in accordance with Table 907.10.1.3 907.6.2.3.3 shall be provided with a visible alarm notification appliance, activated by both the in-room smoke alarm and the building fire alarm system.

**TABLE 907.10.1.3 907.6.2.3.3
VISIBLE AND AUDIBLE ALARMS**

NUMBER OF SLEEPING UNITS	SLEEPING ACCOMMODATIONS WITH VISIBLE AND AUDIBLE ALARMS
6 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1,000	5% of total
1,001 and over	50 plus 3 for each 100 over 1,000

907.10.1.4 907.6.2.3.4 Group R-2. In Group R-2 occupancies required by Section 907 to have a fire alarm system, the notification appliance circuits serving all dwelling units and sleeping units shall be initially designed with a minimum of 20% spare provided with the capability to support visible alarm notification appliances in accordance with ICC A117.1.

907.7 Installation. A fire alarm system shall be installed in accordance with this section and NFPA 72.

907.6 907.7.1 Wiring. Wiring shall comply with the requirements of the *International Code Council Electrical Code Administrative Provisions* and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-power wireless systems in NFPA 72.

907.5 907.7.2 Power supply. The primary and secondary power supply for the fire alarm system shall be provided in accordance with NFPA 72.

Exception: Back-up power for single-station and multiple-station smoke alarms as required in Sections 907.2.10.4 and 907.3.4.3.

907.9 907.7.3 Zones. Each floor shall be zoned separately and a zone shall not exceed 22,500 square feet (2090 m²). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.

Exception: Automatic sprinkler system zones shall not exceed the area permitted by NFPA 13.

907.9.1 907.7.3.1 Zoning indicator panel. A zoning indicator panel and the associated controls shall be provided in an approved location. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible-alarm silencing switch.

907.9.2 907.7.3.2 High-rise buildings. In buildings with a floor used for human occupancy that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

907.13 907.7.4 Access. Access shall be provided to each detector for periodic inspection, maintenance and testing.

907.15 907.7.5 Monitoring. Fire alarm systems required by this chapter or by the *International Building Code* shall be monitored by an approved supervising station in accordance with NFPA 72.

Exception: ~~Supervisory service~~ Monitoring by a supervising station is not required for:

1. Single- and multiple-station smoke alarms required by Section 907.2.10.
2. Smoke detectors in Group I-3 occupancies.
3. Automatic sprinkler systems in one- and two-family dwellings.

907.16 907.7.5.1 Automatic telephone-dialing devices. Automatic telephone-dialing devices used to transmit an emergency alarm shall not be connected to any fire department telephone number unless approved by the fire chief.

907.17 907.8 Acceptance tests and completion. Upon completion of the installation, ~~of the fire alarm system, alarm notification appliances and circuits, alarm initiating devices and circuits, supervisory signal initiating devices and circuits, signaling line circuits, and primary and secondary power supplies and all fire alarm components~~ shall be tested in accordance with NFPA 72.

907.2.10.4 Acceptance testing 907.8.1 Single- and multiple-station alarm devices. When the installation of the alarm devices is complete, each ~~detector device~~ and interconnecting wiring for multiple-station alarm devices shall be tested in accordance with the ~~household fire warning equipment~~ smoke alarm provisions of NFPA 72.

907.18 907.8.2 Record of completion. A record of completion in accordance with NFPA 72 verifying that the system has been installed and tested in accordance with the approved plans and specifications shall be provided.

907.19 907.8.3 Instructions. Operating, testing and maintenance instructions and record drawings (“as built”) and equipment specifications shall be provided at an approved location.

907.20 907.9 Inspection, testing and maintenance. The maintenance and testing schedules and procedures for fire alarm and fire detection systems shall be in accordance with this section and ~~Chapter 10 of~~ NFPA 72.

907.20.1 907.9.1 Maintenance required. ~~Whenever or wherever any device, equipment, system, condition, arrangement, level of protection or any other feature is required for compliance with the provisions of this code, such devices, equipment, systems, conditions, arrangements, levels of protection or other feature shall thereafter be continuously maintained in accordance with applicable NFPA requirements or as directed by the fire code official.~~

907.20.2 907.9.2 Testing. Testing shall be performed in accordance with the schedules in ~~Chapter 10 of~~ NFPA 72 or more frequently where required by the fire code official. ~~Where automatic testing is performed at least weekly by a remotely monitored fire alarm control unit specifically listed for the application, the manual testing frequency shall be permitted to be extended to annual.~~

Exception: Devices or equipment that are inaccessible for safety considerations shall be tested during scheduled shutdowns where approved by the fire code official, but not less than every 18 months.

907.20.3 907.9.3 Smoke detector sensitivity. Smoke detector sensitivity shall be checked within one year after installation and every alternate year thereafter. After the second calibration test, where sensitivity tests indicate that the detector has remained within its listed and marked sensitivity range (or 4-percent obscuration light grey smoke, if not marked), the length of time between calibration tests shall be permitted to be extended to a maximum of five years. Where the frequency is extended, records of detector-caused nuisance alarms and subsequent trends of these alarms shall be maintained. In zones or areas where nuisance alarms show any increase over the previous year, calibration tests shall be performed.

907.20.4 907.9.4 Method. To ensure that each smoke detector is within its listed and marked sensitivity range, it shall be tested using either a calibrated test method, the manufacturer’s calibrated sensitivity test instrument, listed control equipment arranged for the purpose, a smoke detector/control unit arrangement whereby the detector causes a signal at the control unit where its sensitivity is outside its acceptable sensitivity range or other calibrated sensitivity test method acceptable to the fire code official. Detectors found to have a sensitivity outside the listed and marked sensitivity range shall be cleaned and recalibrated or replaced.

Exceptions:

1. Detectors listed as field adjustable shall be permitted to be either adjusted within the listed and marked sensitivity range and cleaned and recalibrated or they shall be replaced.
2. This requirement shall not apply to single-station and multiple-station smoke alarms.

907.20.4.1 907.9.4.1 Testing device. Smoke detector sensitivity shall not be tested or measured using a device that administers an unmeasured concentration of smoke or other aerosol into the detector.

907.20.5 907.9.5 Maintenance, inspection and testing. ~~The building owner shall be responsible for ensuring that the fire and life safety systems are maintained~~ to maintain the fire and life safety systems in an operable condition at all times. Service personnel shall meet the qualification requirements of NFPA 72 for maintaining, inspecting and testing such systems. A written record shall be maintained and shall be made available to the fire code official.

PART II – IBC**Add new text as follows:**

(IBC) 907.3 Existing buildings. Fire alarm systems to be installed in existing buildings shall be in accordance with this code and the *International Existing Building Code* and the *International Fire Code*.

(No other subsections are intended to be added under 907.3 in the IBC)

Reason: To clarify the fire alarm provisions and add limited technical revisions that will aid in providing clarity to the code. The general organization of the reformatted 907 section is as follows:

- 907.1 General
- 907.2 Requirements for new buildings
- 907.3 Requirements for existing buildings
- 907.4 Requirements for special functions
- 907.5 Initiating devices
- 907.6 Notification Devices
- 907.7 Installation requirements
- 907.8 Acceptance testing
- 907.9 Inspection, testing and maintenance

Section 907 evolved as an amalgamation of the three legacy codes. In the process, it absorbed formatting issues from each in a different manner. The charging statement for each Occupancy Group is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. It is certainly not consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

- Bill Aaron (Code Consultants, Inc.),
- Diane Arend (Office of the State Fire Marshal; California),
- Gene Boecker (Code Consultants, Inc),
- Shane Clary (Bay Alarm)
- John Guhl (Office of the State Fire Marshal; California),
- Tom Hammerberg (Automatic Fire Alarm Association, Inc),
- Bill Hoppole (SimplexGrinnel),
- Dave Lowrey (Fire Rescue; City of Boulder),
- Dan Nichols (Building Codes Division; State of New York),
- Jon Nisja (State Fire Marshal Division; Minnesota),
- Brit Rockafellow (Building Project Review, San Diego),
- Jimbo Schiffiliti (Fire Safety Consultants, Inc),
- Dave Stringfield (University of Minnesota)

This is one in a series of code changes. This one incorporates all the formatting changes and all the technical changes. It is hoped that this would be heard first; and, if acceptable recommended for approval by the committee. Otherwise, there are alternative code change proposals being submitted that divide the overall proposal into reformatting and various technical proposals.

PART I – IFC

The following is a section by section description of what was changed in each, followed by a comparison matrix indicating what the old section numbers are and what the new, proposed sections numbers would be. Due to the reformatting, reference is made to the proposed, new section number. Because the text is mostly the same in both the IBC and the IFC, only a single statement is offered and the differences identified as necessary.

907.1 – The paragraph was divided and itemized for quicker visual reference to requirements for new and existing buildings.

907.1.1 The term “construction drawings” is too generic. The type of information noted in the list is what is submitted with “shop drawings.” Whether the jurisdiction requires shop drawings to be submitted at the time of permit application is irrelevant. There is confusion over whether or not the information is required on the contract documents prepared by the architects and engineers or whether it is prepared by the designer of the fire alarm system. The term Shop drawing is the proper term. #3 The terminology was changed to be more consistent with that used in NFPA 72.

#4 Annunciation is the action that occurs and is simply called “occupant notification.” The intent is to identify where the Annunciator panels may be located so that coordination with the fire service needs can occur. #9 The name of the manufacturer is what the code literally requires as written. What is actually requested and provided are data sheets from the manufacturers about their products. The data sheets contain the manufacturer’s information as well as detailed descriptions of the products. #12 This is a new item to the list. One question that seems to be asked regularly but is not previously identified as being required is the supervising station information. Now it will be required to submit what firm will be performing the supervising and what type of supervision will be done.

907.1.2 It is possible to have fire alarm equipment that is not part of a “system” as defined by the code. Therefore the word “their” can be deleted.

907.2 Section renumbering is intended to relate to what is done elsewhere in this proposal. The first sentence is deleted because there is no place in 907 that requires heat detection. Therefore the sentence is extraneous. The second deleted sentence is moved to the new section 907.5.3 because it has more to do with the initiating devices than to “new construction.”

This manual fire alarm box is needed to provide a means of manually activating a fire alarm system that only contains automatic devices like waterflow switches or smoke detectors. It serves two purposes. One is for the sprinkler technician to be able to manually activate the fire alarm system in the event of a fire during the time the sprinkler system is down for maintenance. The second purpose is to allow building occupants a means to manually activate the fire alarm system prior to sprinkler water discharge in the event a fire is discovered. The NFPA 72 Protected Premises Technical Committee feels this requirement belongs in building and fire codes rather than in NFPA 72. NFPA 72 provides the “how to” for fire alarm devices required by building and fire codes. Building and fire codes provide the “when required”. This requirement will be removed from NFPA 72 once it is in the building and fire codes.

907.2.1 The code now clearly indicates that occupant notification is required. It had been assumed and is noted in the commentaries as being the understood response but it never clearly stated that in the code. It is also intimated in the definition but is not clear since there are systems in the code that do not require full occupant notification. The added text removes the ambiguity. This additional text is added in several locations throughout the code

In the exception, the term “alarm notification” technically only indicates that the alarm condition is recognized at the panel. It does not mean that horns and strobes will be activated. “Occupant notification” is the term used to describe that function. The added words “within the notification zones” are provided so that it is clear to what extent the notification should occur. While there is a general understanding about what devices should activate, the revised language clarifies the intent.

907.2.1.1 The reference to NFPA is removed from this section. It is included in the new Section 907.6.2.2. The existing section 907.2.1.2 is deleted because the requirement is included in the new Section 907.6.2.2.3. Because the voice alarm system is part of the fire alarm system, it is subject to 907.2 which requires emergency and standby power to be in accordance with NFPA 72.

907.2.2 The paragraph is divided into various conditions. This is similar to the manner in which Section 903 is organized and makes for easier identification of the various conditions; both in reading and citation. This approach is used throughout the reorganization as a general reformatting concept for clarity. In so doing, the language in item one needed to be changed to make sense and additional language in item two added for clarity

The text change in the exception is the same as that noted for Section 907.2.1. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1.

907.2.3, Exception #1 To clarify a potential misunderstanding, the wording is added so that it is clear that the exception applies to the manual fire alarm system and not the connection referred to in the charging sentence. Exception #2.1 Alarm Verification is a term that is no longer used. Exception #2.2 The wording “the like” is vague. While “similar areas” does not give specific information, it is consistent with code language and better than the alternative – keeping “the like.” Exception #2.4 The phrase “off-premises” is not consistent with NFPA 72 terminology. The code requires that all fire alarm systems must be supervised. Therefore, the intent is provided without any need for this requirement. The text is consequently extraneous and can be deleted.

907.2.4 The section is divided and language changed for clarity. See rationale statement for Section 907.2.2. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1.

907.2.5 (No change)

907.2.6 There is no reason for the wording “electrically supervised” since all smoke detection systems must be supervised by a method using electricity.

907.2.6.1 The charging statement is reworded to be in the positive and ordered in a similar manner to the other sections in 907.2. The reorganization also eliminates a confusion over whether or not the term “habitable” was intended to be applied to the other spaces in the list.

907.2.6.1.1 A new section is added as a pointer to the smoke alarm requirement for Group I-1 occupancies. As it is currently written, the reader does not find out about smoke alarms for I occupancies until reading the section for residential occupancies. This will point out the requirement.

907.2.6.2 – Similar to Section 907.6.1, the text is reworded to be in the positive and consistent with language used elsewhere in Section 907.2.

907.2.6.3 (No change)

907.2.6.3.1 The sentence regarding presignal systems is removed because the sentence preceding it is describing a presignal feature. The existing second sentence contradicts the first sentence. Because the staff notification feature is both desirable and consistent with the Life Safety Code, the second sentence is not necessary.

907.2.6.3.2 The only change is intended to revise the section number reference to be the proper one since the latter section numbers are revised.

907.2.6.3.3 The word “approved” is extraneous in this sense because all fire alarm systems require an approval through the permit process. The word adds nothing of value to the code in this use. This deletion occurs twice – once in the charging paragraph and once again in exception #3.

907.2.7 –The charging paragraph is divided in similar fashion to that noted above (see 907.2.2). The phrase stating what the manual system should activate is relocated to be still in the charging portion of the text. Language changes in the exceptions are the same as those in Section 907.2.2 and for the same reasons. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1.

907.2.7.1 The referenced section is changed because the voice alarm section is proposed to be relocated. Otherwise, there is no change.

907.2.8 Smoke alarms are added to the charging language. While the requirement for smoke alarms is found in the following sections there is currently nothing in the charging text acknowledging it.

907.2.8.1 The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. Two changes are proposed to exception one – both for clarity. The phrase “to those units” is proposed so that it is clear that the crawl spaces of interest are those associated with the units where the exception would be applied and not elsewhere in the building. The second change is to include dwelling units in the description for R-1 occupancies. While the typical assumption for an R-1 occupancy is the hotel room, many transient housing units now include cooking facilities and would therefore be called dwelling units. These types of units include extended stay units and weekly time-share rental properties. Hence, it is necessary to include the term dwelling unit and apply it as necessary for R-1 units as well as R-2 units.

907.2.8.2 The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. There are also two changes to this section. Similar to 907.2.8.1, wording is added for dwelling units. Additionally, it is necessary to indicate that the egress door could lead directly into an exit as well as to an exterior exit access. In compressed site designs, it is not uncommon for the alternative route to be an exit enclosure rather than an exterior balcony. And, if the path leads directly into an exit, that should be counted as at least equal to an exterior balcony.

907.2.8.3 In the first sentence “single- and multiple-station” is added in association with smoke alarms so that it is clear that the requirements in 907.2.10 apply to both conditions. The other change to this sentence is to make it read consistent with other sections of the code. The second sentence is no longer necessary since all new construction for residential occupancies is required to be sprinklered.

907.2.9 In order that the requirements the manual fire alarm system and for smoke alarms can be divided, a new charging sentence is proposed. This is consistent with the format for Section 903 and helps the reader distinguish between code provisions.

907.2.9.1 A new title is added for the split off section. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1.

Existing Exception #1 The essence of this exception has to do with buildings that do not have interior corridors. The criterion for 1-hour separation is a requirement regardless, so it can be deleted. What is left is the limitation that the exception applies to buildings not more than two-stories in height. That criterion is inserted in to exception #3. When the old exception #1 is deleted, the old exception #2 becomes the new exception #1.

New Exception #1 Since the building must be sprinklered reference to sprinklers can be deleted as extraneous. The word “water” is added so that the phrase “water flow” is consistent with that used elsewhere in the code.

New Exception #2 because sprinklers are required in all residential occupancies, the reference to sprinklers can be deleted. The rest of the exception is so similar to the old exception #1 that the two-story limitation was relocated to this exception. The two-story provision with an exterior exit access is the only thing that makes this exception different from the new Exception #1. For practical purposes it could also be deleted since the sprinkler exception in #1 covers the issue completely. The exception was retained in case there was a situation where sprinkler protection may be waived.

907.2.9.2 A new pointer section is added that directs the reader to the requirement for smoke alarms in Group R-2 occupancies.

907.2.10 Charging language from the old 907.10.1 was relocated into this section to make it the charging section. The reference to household fire warning devices is deleted since the term used in NFPA is “smoke alarm.” If the same term is used, it is already clear what the intent is when applying NFPA 72.

907.2.10.1 The old 907.10.1.1 is now the first section relating to smoke alarms. The addition of the terms dwelling units is explained in the substantiation for Section 907.2.8.1 above.

907.2.10.2 The exception added to item #2 is taken from the existing 907.2.10.1.3. The existing 907.2.10.1.3 relates to only item #2 in this list. This way all the provisions are located in the same place instead of two sections. Therefore, the existing 907.2.10.1.3 can be deleted.

907.2.10.3 Consistent with the application in 907.2.8.1 and elsewhere, if dwelling units can also apply to Group R-1 occupancies then there is no reason to segregate the occupancy in the text.

907.2.10.4 The section is renumbered due to the change in the charging section. A sentence is added in recognition of a concern raised by NFPA 72. Reference to Group R-1 is proposed to be deleted since the concept is applicable to all cases where a smoke alarm is required.

At the present time, there are on the market smoke alarms that have an integral strobe that do not have a built in battery for the strobe. Thus, if the power for the building goes down, while the smoke detection and horn of the device may still operate, the strobe will not. It is critical for rooms that are equipment with these smoke alarms that may house the hearing impaired that depend on the strobe to alert them to the alarm. The proposed change to 907.2.10.4 would require that a smoke alarm with an integral strobe that does not have a battery backup would be required to be connected to an emergency electrical system for the required backup power. The section has been changed to 907.2.10.4 to be in alignment with the proposed changes to Section 907 that are part of this submittal.

907.2.11 The word “approved” can be deleted since all alarm systems must be reviewed and approved. In the exception the word “fire” is added to differentiate between what type of alternate detector is allowed should smoke detectors not be appropriate for the ambient conditions. It is not clear in the present text whether or not a pressure sensitive detonation detector could be used as an alternative. The intent is that a fire detector be used.

907.2.11.1 (No change)

907.2.11.2 The paragraph after the list is also a part of the required functions. It is proposed to insert the text as a fourth function in the list and rephrase the text to be consistent with the way that the list is worded. The sentence relative to wiring is generic to all types of fire alarm systems. It is not necessary to repeat it here. The same provision is already located in NFPA 72.

907.2.11.3 The reference to NFPA 72 is deleted since it is more appropriate to refer to the code sections that specifically address the system function. NFPA 72 gives information as to how the voice alarm system should be installed but leaves options since it is primarily an installation document. Without the reference to 907.6.2.2 it is unclear what functions should be provided for a voice alarm in a special amusement building.

907.2.12 –The referenced section is changed from 907.2.12.2 to 907.6.2.2 because the provisions are moved to that new location. This is discussed further in Section 907.6.2.2. Exception #6 is moved from Section 907.2.12.2. It was unclear in its current location whether the exception applies to the last item in the list or to the entire section. This clarifies the issue. Additionally, providing the exception in this section means that the question of voice alarm for high-rise I-1 and I-2 occupancies can be settled before the need to read through the voice alarm requirement sections. The exception should be associated with the charging section.

907.2.12.1 The word “listed” can be deleted since it is already a requirement by definition that smoke detectors must be listed.

907.2.12.2 The existing 907.2.12.2 (and subordinate) sections are proposed to be relocated to a new 907.6.2.2 section with subordinate sections. See Section 906.2.2 for additional rationale. Therefore, the existing 907.2.12.3 becomes the proposed 907.2.12.2 – without any changes.

907.2.12.3 The section is renumbered.

907.2.13 The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. Code section references are changed due to the relocation of text. It is the intent that the references point to the same text as in the existing code arrangement.

907.2.14 – (No change)

907.2.15 The delayed egress lock section relates to a specific safety function and is proposed to be located in a place with similar requirements. Therefore the existing 907.2.16 becomes the new 907.2.15.

907.2.16 Due to section renumbering, the existing 907.2.17 becomes the new 907.2.16.

907.2.17 –With section renumbering, existing 907.2.18 becomes proposed 907.2.17. The nomenclature is changed from smoke “exhaust” to smoke “control” to be consistent with Section 909 and language used elsewhere in the code. The section becomes the charging section for all underground buildings. (See 907.2.17.3)

907.2.17.1 Other than the section renumbering, nothing is changed.

907.2.17.2 The wording is changed to read smoke “control” system rather than smoke “exhaust” system to be consistent with terminology in Section 909.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

907.2.17.3 The existing 907.2.19 addresses requirements for an underground building. The only difference between it and that in the previous section is the depth below grade. Therefore, this section is made to be a subsection of the one addressing underground buildings. The reference section change is due to the relocation of the voice alarm provision.

907.2.17.3.1 No change other than section renumbering.

907.2.18 The section is renumbered due to relocation of requirements and the reference for voice alarms also changes because that provision is relocated.

907.2.19 – The word “listed” is deleted because all smoke detectors and smoke alarms must be listed (see also proposed section 907.2.10). The wording “single-station” is added to provide clarity to the term smoke alarm.

907.2.20 The section is renumbered. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. A sentence is added to indicate where smoke detection is required. In airport control towers smoke detectors are provided as part of a package of provisions to supplement the lack of egress because only one exit is required. However, without some direction, smoke detectors could be construed to be required in every closet and underfloor space. The basic intent is to provide notification and early warning but with such a small area limited placement is all that is necessary. Therefore, the proposed text would direct the installation to be in those areas where people work; which are also the areas with the greatest potential fuel source for a fire. This application is consistent with what is being done in most parts of the country and with what the original intent was for the smoke detection requirement.

907.2.21 The section is renumbered due to text relocation. The word “approved” is deleted since all fire alarm systems must be approved. The word “having” is changed to “with” to be consistent with language used elsewhere in the code. The provision for activation of an alarm at a constantly attended location is moved forward in the sentence. Generally, the preferred solution is listed first. The constantly attended location is the option typically used because it will let people in the vicinity know immediately that there has been an incident so action can be taken immediately. Most of the facilities with this type of battery storage area also one that have on site fire brigades who can respond faster to the scene than the fire department of the local jurisdiction. The preference and generally accepted method should be listed first in the code.

907.3 – Text is added that discusses occupant notification similar to the charging text for 907.2. Also similar to what is proposed for section 907.2, specific text is relocated or deleted because it is not necessary in a charging section. See also the discussion for Section 907.2.

907.3.1 The existing section is deleted since this information is already included in 907.3. It also makes the format consistent with that of 907.2. The exception to the existing 907.3.1 becomes the exception to 907.3 because it addresses the charging provisions of 907.3. The proposed 907.3.1 has no changes other than the renumbering.

907.3.2 A new scoping statement is added to be similar to that in 907.2.6 for new construction. The same exception for new construction is included in 907.3.2.

907.3.2.1 The existing text states fire alarm system which includes both manual and automatic. The proposed text inserts that language as a starting point from which more descriptive and precise code changes can be proposed in the future. Requirements for an existing Group I-1 occupancy is being reference back to 907.2.6.1 so that the exceptions of that section can also be applied as necessary. Otherwise the requirements for existing building would be more restrictive than those for new construction. The existing exception is retained.

907.3.2.2 The existing text states fire alarm system which includes both manual and automatic. The proposed text inserts that language as a starting point from which more descriptive and precise code changes can be proposed in the future. Requirements for an existing Group I-2 occupancy is being reference back to 907.2.6.2 so that the exceptions of that section can also be applied as necessary. Otherwise the requirements for existing building would be more restrictive than those for new construction.

907.3.2.3 The existing text states fire alarm system which includes both manual and automatic. The proposed text inserts that language as a starting point from which more descriptive and precise code changes can be proposed in the future. Requirements for an existing Group I-3 occupancy is being reference back to 907.2.6.3 so that the exceptions of that section can also be applied as necessary. Otherwise the requirements for existing building would be more restrictive than those for new construction.

907.3.3 A new scoping section is added because there are two sets of requirements for Group R occupancies. This places the section in the same hierarchy as other requirements for existing buildings.

907.3.3.1 The section is renumbered due to relocated text. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. The words “manual or automatic” are added because these are both types of fire alarm systems. The change to this framework will allow future revisions to be made to further clarify the intent as necessary. As was done for the provisions for new buildings, the words “dwelling unit” is added because R-1 units can be either sleeping units or dwelling units. (see substantiation for Section 907.2.8.1.)

907.3.3.2 The section is renumbered due to relocated text. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. The words “manual or automatic” are added because these are both types of fire alarm systems. The change to this framework will allow future revisions to be made to further clarify the intent as necessary.

907.3.3.3 The section is renumbered due to relocated text. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. The words “manual or automatic” are added because these are both types of fire alarm systems. The change to this framework will allow future revisions to be made to further clarify the intent as necessary.

907.3.3.4 The section is renumbered due to relocated text. The code now clearly indicates that occupant notification is required. See rationale statement for Section 907.2.1. The words “manual or automatic” are added because these are both types of fire alarm systems. The change to this framework will allow future revisions to be made to further clarify the intent as necessary.

907.3.4 In addition to the section being renumbered, the references are renumbered so that they point to the same requirements as before. Otherwise, there is no change to this section.

907.3.4.1 The section and referenced sections are renumbered as necessary to point to the same provision. The word “approved” is deleted because all fire alarm systems are required to be approved.

907.3.4.2 Consistent with the application in 907.2.8.1 and elsewhere, if dwelling units can also apply to Group R-1 occupancies then there is no reason to segregate the occupancy in the text.

907.3.4.3 Text is added to address battery back-up as it relates top visual devices, integral to the smoke alarm. See substantiation for 907.2.10.4.

907.4 Formerly Section 907.11. The wording is changed twice to read fire control “unit” rather than panel to be consistent with terminology in NFPA 72. Additionally the wording is proposed to be changed in two places from where “required” to where “provided.” It should not matter whether the fire alarm safety function is required by the code. If it is provided, it should meet certain levels of performance so that it can be expected to function in a manner consistent with its intent. For example, if duct smoke detection is “provided” although the size of the unit is less than what is “required,” it should still perform in a manner expected for that function. Therefore the term used should be provided rather than required.

The following four sections are proposed to be lumped in the same area of Section 907. They all relate to special fire safety functions that are not a part of a general fire alarm system. These include duct detectors, delayed egress locks and elevator recall.

907.4.1 The word “panel” is changed to “unit” to be consistent with the term used in NFA 72.

907.4.2 No change to the section other than the renumbering from 907.2.15 to 907.4.2.

907.4.3 This is a new section written to provide clearer reference to both the Elevator Code and the Fire Alarm Code as the standards for installation. Both of these are standards are currently referenced in the codes so there is no reason to address the question of referenced standards in the substantiation.

907.4.4 The proposed text was a part of the last sentence in current Section 907.2.11.2. However, the intent is applicable to all types of special fire safety functions and should not be limited to only special amusement buildings. If wiring is provided as a part of the installation, it should be monitored for integrity so that it has reasonable reliability.

907.5 This is a new scoping statement. In the current code it is unclear as to whether or not the manual fire alarm requirements are to be applied when a manual fire alarm is required or whether the placement in the code indicates that manual devices are required regardless. This is also part of an attempt to differentiate the code requirements between initiating devices and notification devices.

907.5.1 This is a new section that is added to address the smoke detector that is required in NFPA 72. The NFPA 72 Fundamental Technical Committee feels this requirement is more appropriate in the building and fire codes rather than NFPA 72. NFPA 72 provides the "how to" for fire alarm devices required by building and fire codes. Building and fire codes provide the "when required". This smoke detector is required to ensure the fire alarm system is capable of performing its function in the event of a fire in the vicinity of the fire alarm control unit. This smoke detector will activate the fire alarm control and allow it to either notify occupants or transmit a signal to a remote monitoring location before the fire impairs the fire alarm control unit. This requirement will be removed from NFPA 72 once it is in the building and fire codes.

907.5.2 The section is reworded so that it is clear that the intent is to install fire alarm boxes where a manual fire alarm system is required. This clears up the question as to when manual devices are required.

907.5.2.1 Other than the section number, nothing is changed

907.5.2.2 Other than the section number, nothing is changed

907.5.2.3 Other than the section number, nothing is changed

907.5.2.4 Other than the section number, nothing is changed

907.5.2.5 – A reference is added to the allowed projections in the IBC. Without this reference, it would be possible for a review by the fire code official to allow a protective cover that would project in a manner not allowed by the IBC.

907.5.3 The basic language is located currently in Section 907.2. However, it is referring to detection devices and should be located in this part of Section 907. The first sentence is rephrased. Smoke detectors are the limiting installation device. A smoke detection system also includes wiring, power supply, etc. It is not these things but rather the smoke detectors that are of concern. Additionally "shall be permitted" is proper code language – not "shall be allowed." The word "approved" is inserted here because it is appropriate that there be coordination between the code official and the designer in the selection of the device that will substitute for the smoke detector.

907.6 The existing section 907.7 is given a new title to more clearly indicate the function of the activation. The first sentence is added so that it is clear that activation begins by notifying the panel and then notifying the occupants of an alarm condition.

The existing sentence (now the second sentence) has terminology changed to "fire alarm system" which is defined and used elsewhere in the code. The existing term "alarm notification system" is undefined and therefore not well enforceable. It is assumed that the "alarm notification" was intended to indicate that an alarm condition would be sent to the fire alarm control unit but it is not clear that occupant notification would be included in the assumption. The revised text clarifies the issue.

In three locations "required" is deleted and in one place "provided" inserted. As stated previously, it is assumed that when there is a manual fire alarm box, that it performs the function of every other manual fire alarm box – whether the device is "required" or optionally "provided." If there are special circumstances wherein the anticipated response to a provided system is other than expected by this section, it will be necessary to address that with coordination between the designer and the code official.

The fourth item in the list is a proposal based on moving the provisions in the existing section 907.14 to this location. It is not intended to increase or decrease any provisions of the code – only combine similar requirements into one location for better ease of use.

There are three new exceptions proposed. A few of these are not all "new" inasmuch as they are identified rather than simply "understood" to be the case.

Exception #1 According to the general understanding and the concepts addressed in NFPA 72, it is not necessary to initiate occupant notification if the device is to close a damper or affect the function of a door. The reference to Section 907.4 is to the proposed 907.4 dealing with specific fire safety functions.

Exception #2 This exception is a recognition that there are places in the code where one alternative to occupant notification is an alarm notification at a constantly attended location. The exception is intended to clarify the code so that there is no question as to whether this general provision for alarm activation is superseded by the other sections addressing the alarm notification at a constantly attended location. There is no new exception offered here, only recognition of and coordination with those already in the code.

Exception #3 This is a new exception that attempts to address a confusing section in Section 903.4.2. The addition of the one audible alarm notification appliance is intended to provide feedback to the individual operating the manual fire alarm box so they know that something is happening. It is not intended to provide full occupant notification. There are numerous differences in interpretation of what must occur if this manual fire alarm box is actuated. A similar exception has been submitted for Section 903.4.2. Many interpret 903.4.2 to require alarm notification appliances to be installed throughout a facility due to the wording in this section that states "Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system." NFPA has added a new definition in the 2007 edition to describe this system as a "Dedicated Function Fire Alarm System", with the intent to show that it is not the building fire alarm system, and was only installed to provide monitoring of the required sprinkler system. Since Section 903 does not require occupant notification inside the building, full occupant notification should not be required. Visible alarm notification appliance were intentionally omitted to avoid any conflict with ADAAG requirements.

907.6.1 The ability to "presignal" is a feature of a fire alarm system and not a separate system as described within NFPA 72. Thus the title and language with the section are changed to recognize that fact. And use language common to the industry. The phrase "24-hour personnel supervision" is deleted since that is language that describes a proprietary supervisory service. Instead, the phrase "at a constantly attended location" is used, consistent with its usage in other sections of the code where a presignal feature is allowed. The text noting that occupant notification can be activated in the event of a fire is consistent with description of a presignal feature in NFPA 72.

907.6.2 The text is relocated from 907.10. There are no changes to the text.

907.6.2.1 The requirements of Section 907.10.2 are moved up. These sections address the audible devices. Because the code addresses audible and visual devices in that order, the sections are changed to reflect the order. There are no changes to the first sentence. The remainder of the large existing paragraph is divided for ease of reference and to make it clear what the exception applies to.

907.6.2.1.1 The second sentence in the existing 907.10.2 is given its own title and section. These represent the general sound pressure requirements for audibility. A technical change is made to the minimum sound pressure level for sleeping rooms. Based on the current text in NFPA 72, the pressure level is proposed to be increased from 70 dBA to 75 dBA. Otherwise the sentence is unchanged. The higher level is deemed necessary in order to wake people from a deep sleep.

907.6.2.1.2 The third sentence in the existing paragraph addresses special conditions relative to the maximum recommended sound pressure levels. Also based on recommendations from NFPA 72, the maximum sound pressure level is proposed to be lowered from 120 dBA to 110 dBA. The reduction is based on the fact that 120 dBA is just under the threshold of pain. If a person were close to such a device when it activated the result could be permanent hearing loss. The lower threshold is considered to still be loud enough for people to hear consistent with device spacing requirements in NFPA 72 for such spaces.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

907.6.2.2 The voice alarm system is a type of notification device. It is a audible one but one which can produce intelligible words and provide direction to occupants in case of an emergency. Although it is most often associated with high-rise buildings, it is also used in large assembly spaces. Therefore, it is more appropriate that it be located in a part of section 907 that is not specifically associated with one type of building. The existing location is considered "buried" in the text and not easily found. The proposed relocation to a section with other notification devices makes the requirement more user-friendly. It should be located close to the requirements for other devices using sound. There are no proposed changes to the text.

907.6.2.2.1 This is text moved from the subordinate section to 907.2.12. There is no proposed change to the text – only renumbering to be consistent with the relocation of 907.2.12.

907.6.2.2.2 This is text moved from the subordinate section to 907.2.12. There is no proposed change to the text – only renumbering to be consistent with the relocation of 907.2.12.

907.6.2.2.3 In the subsection for large assembly voice alarms, is the requirement for emergency power for the voice alarm system. This is assumed to be true also for high-rise but is noted in the high-rise section of the IBC (403.11.1, item 3). Thus it makes sense that the provision be inserted here so that it is clear that emergency power is required.

907.6.2.3 The provision in Section 907.10.1 are relocated without change to the text or to the exceptions other than to refer to new section numbers, revised as a result of text relocation.

907.6.2.3.1 Text is relocated. There is no change to the text except for renumbering.

907.6.2.3.2 The word "initially" is added to make it clear that the intent is to initially provide for the expansion in circuitry when the system is designed. This is so that at some time in the future additional devices may be added. It is not the intent that the 20% spare capacity be increased each time that the system is modified. The reason for the additional capacity is so that visual devices can be added should hearing disabled employees be hired and renovations be required to add strobes. The 20% spare capacity is intended to be used – not continued at that time.

907.6.2.3.3 The word "dwelling unit" is added. As discussed in prior sections, if there are provisions for cooking in the I-1 or R-1 unit, it then is defined as a dwelling unit. Consequently the term must be added in order to address those conditions. The reference to the table will change as a result of the change in location and renumbering of the base code section. There are no other changes to the code section.

Table 907.6.2.3.3 The table is changed both in the title and in the second column heading. Because the table only deals with visual devices, the reference to audible devices is extraneous. Therefore, it is deleted from the table. Quantities in the table and threshold numbers are unchanged.

907.6.2.3.4 The text is proposed to be modified to be consistent with that in new section 907.3.2.3.2. The existing text only makes reference to spare capacity but does not address what the spare capacity must be. Because the reason for the spare capacity in Group R-2 is the same as that for employee areas, the language was made to be the same.

907.7 A new scoping section is added that identifies the following provisions those associated with installation and not as being somehow another requirement for additional devices. The statement is made that installation shall comply with NFPA 72. This allows similar statements all other the section to be removed as redundant.

907.7.1 The text was moved from 907.6, unchanged. Wiring is placed in the section before power supply because wiring must be installed before the power supply. Thus it is a simple order shift to a logical format.

907.7.2 The text was relocated from 907.5. Although the basic section is unchanged, a new exception is proposed to recognize the fact that battery back-up is provided for smoke alarms as the secondary power supply.

907.7.3 A portion of the installation is to establish alarm notification zones. The text is taken from the existing section 907.9 without changes.

907.7.3.1 The provisions for the zoning indicator panel are relocated here without changes; again as a subsection to zoning.

907.7.3.2 Because special notification zoning is included in the code for high-rise buildings, the provisions are inserted here, after zoning. There are no changes to the text.

907.7.4 Access to devices is an installation consideration and so it is relocated here. Otherwise the text is unchanged.

907.7.5 –The requirement for monitoring the fire alarm is relocated here from 907.15. The terminology is changed from "supervisory service" to monitoring by a "supervising station" to reflect the current usage in NFPA 72 and within the industry.

907.7.5.1 Telephone dialing devices are located in a section subordinate to that for monitoring and so are moved her, without changes.

907.8 Section 907.17 is proposed to be renumbered and function as the scoping section for acceptance testing of fire alarm systems. The total is changed to reflect the fact that testing is a portion of what it means to complete the installation. The "grocery list" of components is deleted and the sentence revised to include the fire alarm system "and all fire alarm components." Because the acceptance testing is to be in accordance with NFPA 72, those components that have testing procedures will be included as part of the fire alarm system

907.8.1 Specific acceptance testing is noted in the existing code for smoke alarms in new buildings. There is no similar provision in the code for existing buildings although it would make sense that the same testing be applied to those devices as well. By taking those provisions and relocating them here, it is clear that all smoke alarms are to be tested as applicable to smoke alarms.

907.8.2 The record of completion should mean that the system has not only been installed but that it is tested. It is important to note testing here rather than allow the reference to NFPA 72 alone. If the system requires a special testing procedure due to special circumstances, then those testing procedures will be a part of the approved plans and/or specifications. Until it is tested, the installation is not complete. Otherwise the text from existing section 907.18 is unchanged.

907.8.3 The section about instructions is unchanged except for the renumbering.

907.9 –The section is renumbered as part of the reformatting. The reference to Chapter 10 in NFPA 72 is deleted. The code makes it clear enough that the requirements for inspection, testing and maintenance must be in accordance with NFPA 72. The provisions for that are no longer in Chapter 10. By deleting the chapter reference the code will always be consistent with the proper reference.

907.9.1 The grocery list is proposed for deletion. It adds nothing and could possibly be construed as all inclusive. The resultant text simply states that "whenever required. . ." That should address the concern.

907.9.2 As noted for section 907.9, there is no reason to make reference to a specific chapter in NFPA 72 since the document already identifies what needs to be done for testing. And, because testing intervals are also addressed in NFPA 72, there is no reason for the second sentence which could conflict with the reference standard if NFPA 72 changes. The exception is maintained because it specifically involves an action required by the fire code official.

907.9.3 The word "smoke" is added too clarify that the sensitivity testing is only applicable to smoke detectors and should not be applied to other types of detectors. It can be understood by reading the text but it is much clearer to simply state smoke detector rather than leave it ambiguous.

907.9.4 The section is renumbered. In Exception #2 the words "and multiple-station" are added so that it is clear that the exception applies whether there is a single smoke alarm or whether there are more that are interconnected.

907.9.4.1 Again, the word "smoke" is added to make it clear that the testing is for smoke detectors and not other devices.

907.9.5 The language is changed to be clearer that the building owner bears the responsibility for maintaining the fire and life safety systems. Use of the word "ensure" does nothing to assist in the enforcement of the code. It only provides a mechanism by which the owner can argue that someone else is responsible for a particular action. While various responsibilities may be a reality, the code should not make the distinction. It is the owner's responsibility; plain and simple.

PART II – IBC

In the Part II - IBC portion of this code change, the insertion of the new IBC Section 907.3 will give a reference to the reader for new work that is in conjunction with an existing building. It also serves to align the numbering between the IFC and the IBC. None of the other subsections of 907.3 in the fire code will be included in the building code.

Primarily, the effort in this code change is in reorganization. A little was in proper use of terminology. Still a little more was in addressing changes in the NFPA 72 standard. Basically, the effort is to produce a part of the code that is similar in organization to other sections and that provides a framework where future proposals can be made without adding section after section to the end of 907.

SECTION 907 ADDITIONAL INFORMATION

Summary of differences: There are two rather large code change proposals that are submitted together along with several smaller ones. One of the large ones is based on a comprehensive change to Section 907 in formatting and clarifications as well as several technical changes. The other proposal is intended to address the reformatting and several clarification items. Several additional code change proposals have been submitted separately to address those technical items. If the comprehensive proposal is preferred there is no need to separately address those other technical proposals. This is the comprehensive proposal that includes those technical changes. The list below is a brief description of the differences between the two:

907.1.1 – Added item #12; classification of supervising station;

907.2 – Added requirement for manual alarm box at fire alarm control unit, consistent with NFPA 72 requirements;

907.2.10.4 – Added back-up power for strobes in smoke alarms (new construction)

907.3.4.3 – Added back-up power for strobes in smoke alarms (existing construction)

907.5.1 – Added smoke detector at fire alarm control unit consistent with NFPA 72

907.6.2.1.1 & 907.6.2.1.2 – Changed sound pressure levels based on recommendations for the upcoming NFPA 72

Section matrix and general listing of renumbered sections. This matrix is provided as an assist in reviewing the renumbering of individual sections and to understand where certain segments of text may have been moved.

New Section	Was
907.1	907.1
907.1.1	907.1.1
907.1.2	907.1.2
907.2.	907.2
907.2.1	907.2.1
907.2.1.1	907.2.1.1
907.2.2	907.2.2
907.2.3	907.2.3
907.2.4	907.2.4
907.2.5	907.2.5
907.2.6	907.2.6
907.2.6.1	907.2.6.1
907.2.6.1.1	New
907.2.6.2	907.2.6.2
907.2.6.3	907.2.6.3
907.2.6.3.1	907.2.6.3.1
907.2.6.3.2	907.2.6.3.2
907.2.6.3.3	907.2.6.3.3
907.2.7	907.2.7
907.2.7.1	907.2.7.1
907.2.8	907.2.8
907.2.8.1	907.2.8.1
907.2.8.2	907.2.8.2
907.2.8.3	907.2.8.3
907.2.9	907.2.9
907.2.9.1	New
907.9.2	New
907.2.10	907.2.10
907.2.10.1	907.2.10.1.1
907.2.10.2	907.2.10.1.2 907.2.10.1.3
907.2.10.3	907.2.10.3
907.2.10.4	907.2.10.2
907.2.11	907.2.11
907.2.11.1	907.2.11.1
907.2.11.2	907.2.11.2
907.2.11.3	907.2.11.3
907.2.12	907.2.12
907.2.12.1	907.2.12.1
907.2.12.2	907.2.12.3
907.2.13	907.2.13
907.2.14	907.2.14
907.2.15	907.2.16
907.2.16	907.2.17
907.2.17	907.2.18
907.2.17.1	907.2.18.1
907.2.17.2	907.2.18.2
907.2.17.3	907.2.19
907.2.17.3.1	907.2.19.1

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

New Section	Was
907.2.18	907.2.20
907.2.19	907.2.21
907.2.20	907.2.22
907.2.21	907.2.23
907.3	907.3
907.3.1	907.3.1.1
907.3.2	New
907.3.2.1	907.3.1.2
907.3.2.2	907.3.1.3
907.3.2.3	907.3.1.4
907.3.3	New
907.3.3.1	907.3.1.5
907.3.3.2	907.3.1.6
907.3.3.3	907.3.1.7
907.3.3.4	907.3.1.8
907.3.4	907.3.2
907.3.4.1	907.3.2.1
907.3.4.2	907.3.2.2
907.3.4.3	907.3.2.3
907.4	907.11
907.4.1	907.12
907.4.2	907.2.15
907.4.3	New
907.4.4	907.2.11.2 (part)
907.5	New
907.5.1	New
907.5.2	907.4
907.5.2.1	907.4.1
907.5.2.2	907.4.2
907.5.2.3	907.4.3
907.5.2.4	907.4.4
907.5.2.5	907.4.5
907.5.3	907.2 (part)
907.6 , #4	907.7, 907.14
907.6.1	907.8
907.6.2	907.10
907.6.2.1	907.10.2
907.6.2.1.1	907.10.2
907.6.2.1.2	907.10.2
907.6.2.2	907.2.12.2 907.2.12.2.3
907.6.2.2.1	907.2.12.2.1
907.6.2.2.2	907.2.12.2.2
907.6.2.2.3	907.2.1.2
907.6.2.3	907.10.1
907.6.2.3.1	907.10.1.1
907.6.2.3.2	907.10.1.2
907.6.2.3.3	907.10.1.3
907.6.2.3.4	907.10.1.4
907.7	New
907.7.1	907.6
907.7.2	907.5
907.7.3	907.9
907.7.3.1	907.9.1
907.7.3.2	907.9.2
907.7.4	907.13
907.7.5	907.15
907.7.5.1	907.16
907.8	907.17
907.8.1	907.2.10.4
907.8.2	907.18
907.8.3	907.19
907.9	907.20
907.9.1	907.20.1
907.9.2	907.20.2
907.9.3	907.20.3
907.9.4	907.20.4
907.9.4.1	907.20.4.1
907.9.5	907.20.5

Bibliography:

NFPA 72 – National Fire Alarm Code; 2002 edition.
 NFPA 72 – National Fire Alarm Code; 2007 edition – draft text

NFPA 72 – National Fire Alarm handbook; 2002 edition
 NFPA 101 – Life Safety Code; 2006 edition
 SFPE Handbook; 2nd edition, 1995

Cost Impact: There is little to no cost impact to this proposal, depending on the Occupancy Group classification and size of building. A few of the items may increase the cost of construction (i.e. battery backup for smoke alarms) but the added clarification should reduce the cost of construction.

Public Hearing Results

PART I – IFC

Committee Action:

Approved as Modified

Modify the proposal as follows:

907.1 General. This section covers the application, installation, performance and maintenance of fire alarm systems and their components in new and existing buildings and structures. The requirements of Section 907.2 are applicable to new buildings and structures. The requirements of Section 907.3 are applicable to existing buildings and structures, as follows:

1. ~~The requirements of Section 907.2 are applicable to new buildings and structures.~~
2. ~~The requirements of Section 907.3 are applicable to existing buildings and structures.~~

907.1.1 Construction documents. ~~Shop drawings.~~ Construction documents ~~Shop drawings.~~ Construction documents ~~Shop drawings.~~ for fire alarm systems shall be submitted for review and approval prior to system installation. ~~Construction documents. ~~Shop drawings.~~~~ shall include, but not be limited to, all of the following:

1. A floor plan which indicates the use of all rooms.
2. Locations of alarm-initiating and notification appliances.
3. Location of fire alarm control unit, transponders, and notification power supplies.
4. Annunciators.
5. Power connection.
6. Battery calculations.
7. Conductor type and sizes.
8. Voltage drop calculations.
9. Manufacturer data sheets indicating model numbers and listing information for equipment, devices and materials.
10. Details of ceiling height and construction.
11. The interface of fire safety control functions.
12. Classification of the supervising station.

907.2.8.1 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group R-1 occupancies.

Exceptions:

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual ~~dwelling units or~~ sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by at least 1-hour fire partitions and each individual ~~dwelling unit or~~ sleeping unit has an exit directly to a public way, exit court or yard.
2. Manual fire alarm boxes are not required throughout the building when the following conditions are met:
 - 2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 2.2. The notification appliances will activate upon sprinkler water flow; and
 - 2.3. At least one manual fire alarm box is installed at an approved location.

907.2.8.2 Automatic fire alarm system. An automatic fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed throughout all interior corridors serving ~~dwelling units or~~ sleeping units.

Exception: An automatic fire detection system is not required in buildings that do not have interior corridors serving ~~dwelling units or~~ sleeping units and where each ~~dwelling unit or~~ sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

907.2.10.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the ~~dwelling unit or~~ sleeping unit.
3. In each story within the ~~dwelling unit or~~ sleeping unit, including basements. For ~~dwelling units or~~ sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

907.2.17.3-907.2.18 Deep underground buildings. (Proposed text is unchanged)

907.2.17.3.1 907.2.18.1 Public address system. (Proposed text is unchanged)

907.2.18 907.2.19 Covered mall buildings. (Proposed text is unchanged)

907.2.19 907.2.20 Residential aircraft hangars. (Proposed text is unchanged)

907.2.20 907.2.21 Airport traffic control towers. (Proposed text is unchanged)

907.2.24 907.2.22 Battery rooms. (Proposed text is unchanged)

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

907.3 Where required—retroactive in existing buildings and structures. An approved manual, automatic or manual and automatic fire alarm system shall be installed in existing buildings and structures in accordance with Sections 907.3.1 through 907.3.1.8 and provide occupant notification in accordance with Section 907.6 unless other requirements are provided by other sections of this code.

Exception: Occupancies with an existing, previously approved fire alarm system.

907.3.3.1 Group R-1 hotels and motels. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels more than three stories or with more than 20 ~~dwelling units or~~ sleeping units.

Exception: Buildings less than two stories in height where all ~~dwelling units or~~ sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each ~~dwelling unit or~~ sleeping unit has direct access to a public way, exit court or yard.

907.4 Fire safety functions. Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control unit where a fire alarm system is required by Section 907.2 ~~provided~~. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or activate a visible and audible supervisory signal at a constantly attended location. In buildings not equipped with a fire alarm system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72.

907.4.1 Duct smoke detectors. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by Section 907.2 ~~provided~~. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location. Duct smoke detectors shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

907.6 Alarm notification systems. A fire alarm system shall annunciate at the panel and shall initiate occupant notification upon activation, in accordance with this section. Where a fire alarm system is required by another section of this code ~~provided~~, it shall be activated by:

1. Automatic fire detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Automatic fire-extinguishing systems.

Exceptions:

1. Occupant notification is not required for fire detectors used to control fire safety functions in accordance with Section 907.4.
2. Where notification systems are permitted elsewhere in this section to annunciate at a constantly attended location.
- ~~3. Where a dedicated function fire alarm system is installed exclusively to transmit waterflow signals to a remote monitoring location, a single audible alarm notification device, in accordance with Section 903.4.2, shall be installed in the vicinity of the manual fire alarm box to activate upon detection of waterflow or upon activation of the manual fire alarm box.~~

907.6.2.3.4 Group R-2. In Group R-2 occupancies required by Section 907 to have a fire alarm system, ~~the notification appliance circuits serving~~ all dwelling units and sleeping units shall be ~~initially designed with a minimum of 20% spare~~ provided with the capability to support visible alarm notification appliances in accordance with ICC A117.1.

(Portions of proposal not shown remain unchanged)

Committee Reason: Based on the proponent's reason statement. The proposal achieves the proponent's stated goals and is a substantial improvement over the current Section 907. The committee felt that the proposal as modified is a good starting point for future improvements. The modifications, which deal with concerns brought up in testimony and committee discussion, delete redundant text (907.1), retain use of a defined term (907.1.1), correct an error in including the term "dwelling units" in Group R-1 requirements (907.2.8.1, 907.2.8.2, 907.2.10.1, 907.3.3.1), clarify applicability to all deep underground buildings (907.2.18), retain a reasonable exception (907.3), retain applicability only to required systems (907.4, 907.4.1), clarify applicability only with a required alarm system (907.6), correlate with the action on F100-06/07 (907.6, Ex. 3), and recognize that the requirement can be met by simple installation of a relay in the unit (907.6.2.3).

Assembly Action:

None

PART II – IBC FIRE SAFETY

Committee Action:

Approved as Submitted

Committee Reason: This proposal brings the reference into both the IBC and also the IEBC. This will provide a helpful reference where new work is being done within an existing building. An additional benefit will be that it will help coordinate the numbering between Chapter 9 of the IBC and IFC and help eliminate confusion that sometimes occurs because of the difference in the numbering.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted for Part I.

Public Comment 2:

Gene Boecker, Code Consultants, Inc., requests Approval as Modified by this public comment for Part I.

Modify only Section 907.5.1 of the proposal as follows:

907.5.1 Protection of Fire Alarm Control Unit. In areas that are not continuously occupied, a single smoke detector shall be provided at the location of each fire alarm control unit, notification appliance circuit power extenders, and supervising station transmitting equipment.

Editorially, revise the exception to be identified as Exception Number 1 and add the following second exception:

2 The smoke detector shall not required where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Commenter's Reason: During the preparation of the code change, efforts were made to include items that were anticipated as a part of the revised NFPA 72 standard. The deadline for proposal submittal was prior to the final action of the NFPA 72 committee. During public testimony at the ICC hearings in Orlando, it was noted that one of the differences was that the NFPA 72 committee adopted language that allowed for the omission of the smoke detector if the building was sprinklered.

This modification would modify the code language and insert into the code the exception, making the IBC and IFC consistent with the fire alarm requirements in NFPA 72. This concept was discussed by the task group working on the original code change proposal. We have subsequently discussed this with the individual who raised the issue at the ICC committee hearings and resolved the issue with the original task group. This proposed modification is the result.

We believe, consistent with the NFPA 72 committee, that the need for the smoke detector is diminished if not totally eliminated by the presence of the sprinkler system throughout the building. The intent of the smoke detector was to provide an early warning device should a fire originate in the area of the fire alarm control unit. The sprinkler system, with its integral connection to the fire alarm control unit, accomplishes that purpose. This issue has been discussed at numerous code hearings in the past. A vote in favor of this modification would be consistent with the prior actions.

Public Comment 3:

Gene Boecker, Code Consultants, Inc., requests Approval as Modified by this public comment for Part I.

Modify proposal as follows:

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group A occupancies having an occupant load of 300 or more. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.2 Group B. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group B occupancies where one of the following conditions exists:

1. (No change to current text)
2. (No change to current text)

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.3 Group E. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. (No change to current text)
2. (No change to current text)
3. Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.

907.2.4 Group F. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group F occupancies where both of the following conditions exist:

1. (No change to current text)
2. (No change to current text)

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

907.2.6.1 Group I-1. An automatic smoke detection system shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping rooms and kitchens. The system shall be activated in accordance with Section 907.6.

Exceptions:

1. Smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. (No change to current text)

907.2.6.3.3 Smoke detectors. An automatic smoke detection system shall be installed throughout resident housing areas, including sleeping areas and contiguous day rooms, group activity spaces and other common spaces normally accessible to residents.

Exceptions:

1. (No change to current text)
2. (No change to current text)
3. Smoke detectors are not required in sleeping units with four or fewer occupants in smoke compartments that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

907.2.7 Group M. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group M occupancies where one of the following conditions exists:

1. The combined Group M occupant load of all floors is 500 or more persons.
2. The Group M occupant load is more than 100 persons above or below the lowest level of exit discharge.

Exceptions:

1. (No change to current text)
2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will automatically activate throughout the notification zones upon sprinkler water flow.

907.2.9.1 Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group R-2 occupancies where:

1. Any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge;
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit; or
3. The building contains more than 16 dwelling units or sleeping units.

Exceptions:

1. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.
2. (No change to current text)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: One of the efforts of the task group was to revise language for consistency with that used elsewhere in the code. During the rewrite it was determined that the *"equipped throughout with an automatic sprinkler system"* phrase should be used where applicable since it is used in other places in Chapter 9 and 10.

Inadvertently, the task group overlooked the reference language that is used non-consistently. In order to use language that is consistent and more specific, the reference language should be added to avoid confusion regarding whether one or both types of dominant sprinkler designs are acceptable. Elsewhere in the code reference is made to the applicable section for installation, This amendment would continue that application.

Final Hearing Results

F122-06/07, Part I AMPC2, 3
F122-06/07, Part II D

Code Change No: F123-06/07

Original Proposal

Sections: 909.8.1 (IBC [F] 909.8.1)

Proponent: Daniel E. Nichols, New York State Department of State

Revise as follows:

909.8.1 Smoke layer. The height of the lowest horizontal surface of the ~~accumulating~~ smoke layer interface shall be maintained at least 6 feet (1829 mm) above any walking surface that forms a portion of a required egress system within the smoke zone.

Reason: The purpose of this code change proposal is to remove a potential conflict between the IFC (IBC, IMC) and the design standard, NFPA 92B

NFPA 92B has a definition for the term 'smoke layer interface'. Due to the dynamics of a fire event, smoke does not accumulate at a constant rate from the ceiling of a space. NFPA 92B addresses this by discussing the smoke layer as the hazard it produces rather than the current IFC language that is often interpreted as a clear space. Retaining the term 'accumulating smoke layer' could become confusing when using NFPA 92B since it could be interpreted that the code is referencing the NFPA 92B definition of 'transition zone' or 'first indication of smoke' rather than the 'smoke layer interface.'

Bibliography: NFPA 92B, 2005 edition- Smoke Management Systems

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides correlation with the terminology used in the referenced standard, NFPA 92B.

Assembly Action:

None

Final Hearing Results

F123-06/07

AS

Code Change No: F132-06/07

Original Proposal

Sections: 912.2 (IBC [F] 912.2)

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be approved by the fire code official.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The proposal will correlate this section with the approval language in Sections 912.2.1 and 912.2.2.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be approved by the fire ~~chief~~ code official.

Committee Reason: The proposal will provide the desired correlation with Sections 912.2.1 and 912.2.2. The modification reflects the fact that FDC location is a matter of operational concern for the fire department.

Assembly Action:

None

Final Hearing Results

F132-06/07

AM

Code Change No: **F133-06/07**

Original Proposal

Sections: 912.3, 912.3.2 (New), 912.3.3 (New) [IBC [F] 912.3, [F] 912.3.2 (New), [F] 912.3.3 (New)], IFC 508.5.4

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

1. Revise as follows:

912.3 Access. Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls or any other fixed or moveable object ~~for a minimum of 3 feet (914 mm)~~. Access to fire department connections shall be approved by the fire code official.

Exception: Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section 912.4 and a means of emergency operation. The gate and the means of emergency operation shall be approved by the fire code official and maintained operational at all times.

2. Add new text as follows:

912.3.2 Clear space around connections. A working space of not less than 36 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided and maintained in front of and to the sides of wall-mounted fire department connections and around the circumference of free-standing fire department connections, except as otherwise required or approved by the fire code official.

912.3.3 Physical protection. Where fire department connections are subject to impact by a motor vehicle, vehicle impact protection shall be provided in accordance with Section 312.

3. Revise as follows:

508.5.4 Obstruction. Unobstructed access to fire hydrants shall be maintained at all times. Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

Reason: The phrase "...for a minimum of 3 feet..." was added by code changes F830-98 and F831-98 as a means of correlating with IFC Section 508.5.5 - Clear space around hydrants. The added phrase, however, can be and has been literally interpreted as allowing obstructions to fire department connection (FDC) access to exist as long as they are kept 3 feet away from the FDC.

The suggested solution clarifies the intent of the section by deleting the conflicting text from Section 912.3 and adding recognition that the obstructing objects regulated here can be either fixed or moveable (such as outdoor furnishings, shopping cart queue areas, etc.). A new sentence is also suggested that reinforces the approval process by the fire code official.

The suggested solution also includes an exception that recognizes the practical fact that sometimes, security or other considerations make installation of a fence around a building necessary as long as the fence meets the stated criteria. The sign requirement intends to provide a visual location cue to approaching fire apparatus where the height of the fence may obscure the visibility of the FDC. The text of the exception is based on IFC Section 503.6.

The suggested solution, in new Sections 912.3.2 and 912.3.3, includes text that is more reflective of the intent of the deleted phrase from Section 912.3 (and the intent of Section 508.5.5) and provides added protection consistent with Sections 508.5.6 and 312.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

912.3 Access. Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls or any other fixed or moveable object. Access to fire department connections shall be approved by the fire ~~code official~~.

Exception: Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section 912.4 and a means of emergency operation. The gate and the means of emergency operation shall be approved by the fire ~~code official~~ and maintained operational at all times.

912.3.2 Clear space around connections. A working space of not less than 36 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided and maintained in front of and to the sides of wall-mounted fire department connections and around the circumference of free-standing fire department connections, except as otherwise required or approved by the fire ~~code official~~.

(Portions of proposal not shown remain unchanged.)

Committee Reason: The proposal clarifies the intent of the code with respect to maintaining FDC's accessible and unobstructed at all times. The modifications reflect the fact that access to FDC's is a matter of operational concern for the fire department.

Assembly Action:

None

Final Hearing Results

F133-06/07

AM

Code Change No: F138-06/07

Original Proposal

Section: 1028.5 (New)

Proponent: A. Hal Key, P.E., Mesa, AZ, representing himself

Add new text as follows:

1028.5 Non-exit identification. When in the opinion of the fire code official, a door is arranged, constructed similar to, or can be confused with an exit door, that door shall be identified with an approved sign reading "No Exit."

(Renumber subsequent sections)

Reason: Many times doors look like exit doors and those doors do not lead to an egress path. In many cases, these doors only open into rooms with no other way out. This added section will permit the fire code official to require the non-exit door signage. This added section is not intended to be included in the new construction requirements for a building due to the difficulty in determining the confusion between exit doors and non-exit door during the plan review process. This added section is intended for the Fire Code Official during maintenance inspections when the confusion becomes apparent.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1028.5 Non-exit identification. ~~When in the opinion of the fire code official, Where a door is adjacent to arranged, constructed similar to, and or can be confused with a means of egress an exit door, that door shall be identified with an approved sign that identifies the room name or use of the room. reading "No Exit."~~

Committee Reason: The proposal will provide an important enforcement tool for the enhancement of egress safety. The modification removes potential confusion that could be caused by signage that uses the word "exit"

Assembly Action:

None

Final Hearing Results

F138-06/07

AM

Code Change No: F140-06/07

Original Proposal

Section: 1106.5.1

Proponent: Anthony W. Richter, The Boeing Company

Revise as follows:

1106.5.1 Positioning of aircraft fuel servicing vehicles. Aircraft fueling ~~servicing~~ vehicles shall not be located, parked or permitted to stand in a position where such unit would obstruct egress from an aircraft should a fire occur during fuel-transfer operations. ~~Tank vehicles shall not be located, parked or permitted to stand under any portion of an aircraft.~~

Reason: The general requirement for tank vehicles to not be located, parked or permitted to stand under any portion of an aircraft is overly restrictive and unenforceable. Depending on any one of a number of factors to include, the size of the aircraft, the location of fuel inlets and the length of hose on the tank truck, will dictate where aircraft fuel servicing vehicles are necessarily located. Approval of this proposed code change would reflect standard industry practices and eliminate a burdensome, unenforceable provision.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: There was no technical substantiation provided for the proposal. Changing the technical term from aircraft fueling vehicles to aircraft fuel servicing vehicles would be inconsistent with the term used in the referenced standard, NFPA 407.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Michael J. Shimer, The Boeing Company, requests Approval as Modified by this public comment.

Modify proposal as follows:

1106.5.1 Positioning of aircraft fueling servicing vehicles. Aircraft fueling servicing vehicles shall not be located, parked or permitted to stand in a position where such unit would obstruct egress from an aircraft should a fire occur during fuel-transfer operations. Aircraft fueling vehicles shall not be located, parked or permitted to stand under any portion of an aircraft.

Exception: Aircraft fueling vehicles shall be allowed to be located under aircraft wings during underwing fueling of turbine-engine powered aircraft.

Commenter's Reason: The general requirement for tank vehicles to not be located, parked or permitted to stand under any portion of an aircraft is overly restrictive and unenforceable. Depending on any one of a number of factors to include, the size of the aircraft, the location of fuel inlets and the length of hose on the tank truck, will dictate where aircraft fuel servicing vehicles are necessarily located. During discussion of this item in Orlando, the committee felt that the provision was too broad in its scope and could apply to private or piston powered aircraft. Additionally, there was concern that proposed terminology was not consistent with NFPA 407. This public comment speaks to both concerns. First, a specific exception has been created that applies only to turbine-engine (jet) powered aircraft. Secondly, proposed terminology is now consistent with that used in NFPA 407. It should be noted that there was testimony in Orlando from the Houston, Texas Airport Authority speaking in favor of the proposal. Approval of this modified code change would reflect standard industry practices and eliminate a burdensome, unenforceable provision.

Final Hearing Results

F140-06/07

AMPC1

Code Change No: F141-06/07

Original Proposal

Section: 1413.1 (IBC [F] 3311.1)

Proponent: John Berry, Cole + Russell Architects, Inc.

Revise as follows:

1413.1 (IBC [F] 3311.1) Where required. ~~In buildings four or more stories in height shall be provided with required to have standpipes by Section 905.3.1, not less than one standpipe shall be provided for use during construction.~~ Such standpipes shall be installed when the progress of construction is not more than 40 feet (12 192 mm) in height above the lowest level of fire department vehicle access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

Reason: The proposed text ties Sections 1413.1 and 905.3.1 together to clarify that the building first must need a standpipe based on Section 905.3.1. If the building is required to have standpipes, then one of those standpipes must be provided during construction per Section 1413.1. The proposed text does not alter the intent of the code, but rather clarifies it. The addition of the word "vehicle" merely coordinates the language used elsewhere in the code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal provides needed clarification of the text and improved correlation between Sections 905 and 1413 of the code by deletion of an arbitrary threshold of 4 stories.

Assembly Action:**None**

Final Hearing Results

F141-06/07

AS

Code Change No: F142-06/07

Original Proposal

Section: 1417.1

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

1417.1 General. Roofing operations utilizing heat-producing systems or other ignition sources shall be conducted in accordance with Chapter 26. ~~performed by a contractor licensed and bonded for the type of roofing process to be performed.~~

Reason: Fire Code is not and should not be responsible for ensuring the proper licensing of contractors. IFC Chapter 26 is also an appropriate reference for roofing operations.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1417.1 General. Roofing operations utilizing heat-producing systems or other ignition sources shall be conducted in accordance with this section and Chapter 26.

Committee Reason: Based on the proponent's reason statement. The proposal relieves the fire code official of responsibility for verifying roofing contractor's licenses. The modification retains the applicability of the fire extinguisher and tar kettle requirements.

Assembly Action:

None

Final Hearing Results

F142-06/07

AM

Code Change No: F144-06/07

Original Proposal

Sections: 1506.2, 1506.3

Proponents: Gregory G. Victor, Fire Department, Glendale, AZ; Elley Klausbruckner, Klausbruckner & Associates

Revise as follows:

1506.2 Location. Powder coating operations shall be conducted in enclosed powder coating rooms, enclosed powder coating facilities which are ventilated, or ventilated spray booths. ~~constructed and protected in accordance with Section 1506.~~

1506.3 Construction of powder coating rooms and booths. Powder coating rooms and booths shall be constructed of noncombustible materials, enclosed powder coating facilities which are ventilated, or ventilated spray booths shall be constructed in accordance complying with Section 1504.3.2.

Exception: Listed spray-booth assemblies that are constructed of other materials shall be allowed.

Reason: The new format of Chapter 15 as approved by the membership is as follows:

1. General
2. Location
3. Construction & Equipment
4. Fire Protection
5. Housekeeping, maintenance and storage of hazardous materials
6. Sources of Ignition
7. Ventilation
8. Interlocks
9. Additional Specific

It came to our attention that the current text as published in the 2006 first edition appears to be incorrect since it does not seem to make sense. A review to the text as well as the original submittals and other communications that the current text appears to be the result of a word processing snafu. This proposal will revise the text of 1506.2 and 1506.3 to reflect the original intent, which was to incorporate the requirements found in old Section 1507.2 and split the location & construction requirements to meet the new format of Chapter 15 without changing the content of the original section.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides a needed clarification of the text and clarifies the separation between the operational provisions and construction provisions of Chapter 15.

Assembly Action:

None

Final Hearing Results

F144-06/07

AS

Code Change No: **F145-06/07**

Original Proposal

Sections: 1507.2, 1507.3, 1507.3.1, 1507.5.1

Proponent: Anthony W. Richter, The Boeing Company

Revise as follows:

1507.2 Location and clear space. A space of at least twice the sparking distance shall be maintained between goods being painted or deteared and electrodes, electrostatic atomizing heads or conductors. A sign stating the sparking distance shall be conspicuously posted near the assembly.

Exception: Portable electrostatic paint-spraying apparatus approved for use in Class I, Division 1 locations.

1507.3 Construction of equipment. Electrodes and electro-static atomizing heads shall be of approved construction, rigidly supported in permanent locations and effectively insulated from ground. Insulators shall be nonporous and non-combustible.

Exception: Portable electrostatic paint-spraying apparatus approved for use in Class I, Division 1 locations.

1507.3.1 Barriers. Booths, fencing, railings or guards shall be placed about the equipment such that either by their location or character, or both, isolation of the process is maintained from plant storage and personnel. Railings, fencing and guards shall be of conductive material, adequately grounded, and shall be at least 5 feet (1524 mm) from processing equipment.

Exception: Portable electrostatic paint-spraying apparatus approved for use in Class I, Division 1 locations.

1507.5.1 Maintenance. Insulators shall be kept clean and dry. Drip plates and screens subject to paint deposits shall be removable and taken to a safe place for cleaning. Grounds and bonding means for the paint-spraying apparatus and all associated equipment shall be periodically cleaned and maintained free of overspray.

Reason: Portable electrostatic spray guns have been listed and approved by recognized testing laboratories for many years and are in use in commercial/industrial applications throughout the United States. These units are approved for use in Class I, Division I, Group D environments and they do not create an ignition source from potential sparking. Such units are designed to preclude sparking when the spray gun is moved directly against the object being sprayed. The requirements to install barriers, provide signs, and require general isolation of equipment does not improve the safety of this category of equipment and hampers its use by industry.

On the other hand, it is felt that a general safety requirement for all paint spraying operations is currently lacking in the IFC. And that deals with the fact that all electrostatic spray equipment requires that grounding and bonding means be properly maintained free of overspray so as to preclude the potential injury to employees or the creation of potential fire hazards caused by the electric charge of objects through the Leyden jar effect.

The purpose of this proposal is to update IFC provisions by recognizing standard industry practice and increase safety of spray painting operations through increased maintenance requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1507.2 Location and clear space. A space of at least twice the sparking distance shall be maintained between goods being painted or deteared and electrodes, electrostatic atomizing heads or conductors. A sign stating the sparking distance shall be conspicuously posted near the assembly.

Exception: Portable electrostatic paint-spraying apparatus ~~listed approved~~ for use in Class I, Division 1 locations.

1507.3 Construction of equipment. Electrodes and electro-static atomizing heads shall be of approved construction, rigidly supported in permanent locations and effectively insulated from ground. Insulators shall be nonporous and non-combustible.

Exception: Portable electrostatic paint-spraying apparatus ~~listed approved~~ for use in Class I, Division 1 locations.

1507.3.1 Barriers. Booths, fencing, railings or guards shall be placed about the equipment such that either by their location or character, or both, isolation of the process is maintained from plant storage and personnel. Railings, fencing and guards shall be of conductive material, adequately grounded, and shall be at least 5 feet (1524 mm) from processing equipment.

Exception: Portable electrostatic paint-spraying apparatus ~~listed approved~~ for use in Class I, Division 1 locations.

1507.5.1 Maintenance. Insulators shall be kept clean and dry. Drip plates and screens subject to paint deposits shall be removable and taken to a safe place for cleaning. Grounds and bonding means for the paint-spraying apparatus and all associated equipment shall be periodically cleaned and maintained free of overspray.

Committee Reason: Based on the proponent's reason statement. The proposal addresses the use of tested portable electrostatic paint spraying devices which should be acceptable within the context of the IFC. The modification reflects the typical phraseology of how devices are recognized as being suitable for use in electrically classified locations.

Assembly Action:

None

Final Hearing Results

F145-06/07

AM

Code Change No: F147-06/07

Original Proposal

Sections: 1803.13.2 (IBC [F] 415.8.7.2), 3704.2.2.10

Proponent: Pat McLaughlin, McLaughlin & Associates, representing Semiconductor Industry Association

Revise as follows:

1803.13.2 Gas detection system operation. The continuous gas detection system shall be capable of monitoring the room, area or equipment in which the gas is located at or below the ~~permissible exposure limit (PEL) or ceiling limit of the gas for which detection is provided~~ following gas concentrations:

1. Immediately dangerous to life and health (IDLH) values when the monitoring point is with an exhausted enclosure, ventilated enclosure or gas cabinet.
2. Permissible exposure limit (PEL) levels when the monitoring point is an area outside an exhausted enclosure, ventilated enclosure or gas cabinet.
3. For flammable gases, the monitoring detection threshold level shall be vapor concentrations in excess of ~~20~~ 25 percent of the lower flammable limit (LFL) when the monitoring is within or outside an exhausted enclosure, ventilated enclosure or gas cabinet.
4. Monitoring for highly toxic and toxic gases shall also comply with Chapter 37.

3704.2.2.10 Gas detection system. A gas detection system shall be provided to detect the presence of gas in the room, area or equipment in which the gas is located at or below the ~~permissible exposure limit (PEL) or ceiling limit of the gas for which detection is provided.~~ following gas concentrations:

1. Immediately dangerous to life and health (IDLH) values when the monitoring point is with an exhausted enclosure, ventilated enclosure or gas cabinet.
2. Permissible exposure limit (PEL) levels when the monitoring point is an area outside an exhausted enclosure, ventilated enclosure or gas cabinet.
3. The system shall be capable of monitoring the discharge from the treatment system at or below one-half the IDLH limit.

Exception: A gas detection system is not required for toxic gases when the physiological warning threshold level for the gas is at a level below the accepted PEL for the gas.

Reason: The ACGIH has announced that it is considering lowering the arsine TLV from its current value of 50 ppb to 5 ppb. IFC section 3704.2.2.9 requires gas detection to detect a leak at or below the Permissible Exposure Limit (PEL). This exposure limit regulated by OSHA to prevent adverse health effects and is the breathing zone exposure limit for employees over an 8-hr time weighted average. A great percentage of existing gas detection technology would not be capable of detecting at arsine TLV of 5 ppb. SIA is concerned that if these TLV's are promulgated by OSHA as revised PEL's (TLV's have been the past origin of PEL's), that new detection equipment would have to be retrofitted in existing fabs at significant cost and with little real improvement to personnel safety since all HPM gases are located inside exhausted enclosures, ventilated enclosures or gas cabinets which are designed to contain a worst case release. In most cases, gas detection in the semiconductor industry is conducted in an exhausted enclosure, ventilated enclosure or gas cabinet and not in the breathing zone of the employee, and is designed to detect and alert employees of leaks inside exhausted enclosures, ventilated enclosures or gas cabinets and is not intended to estimate potential employee breathing zone exposures. The semiconductor industry addressed this by codifying NFPA 318, Section 10.9 to differentiate gas detection set points in exhausted enclosures (set at the IDLH) with gas detection when the monitoring point is in an area outside an exhausted enclosure, ventilated enclosure or gas cabinet. The purpose of the change will be to harmonize the IFC with NFPA 318, Section 10.9 (see below) guidelines that are much more relevant to the type of monitoring performed in the semiconductor manufacturing (inside exhausted enclosures, ventilated enclosures or gas cabinets). Monitoring in the semiconductor industry is designed to detect and alert employees of leaks inside exhausted enclosures, ventilated enclosures and gas cabinets and is not intended to estimate potential employee breathing zone exposures. Therefore, set points are not required or recommended to be set at occupational exposure limits (e.g. TLVs or PELs). Additionally, the change from 20% LFL to 25% LFL will create consistency with both IMC, Section 510.2 and NFPA 318, Section 10.9.

NFPA 318 Extracts for Gas-Detection

10.9 Gas-Detection Systems.

10.9.1 General. A gas-detection system shall be provided for hazardous chemical gases when the physiological warning properties of the gas are at a higher level than the accepted permissible exposure limit (PEL) for the gas, for flammable gases, and for pyrophoric gases.

10.9.2 Where Required.

10.9.2.1 Fabrication Areas. A gas-detection system shall be provided in fabrication areas at locations in the fabrication area where gas is used or stored.

10.9.2.2 Hazardous Chemical Rooms. A gas-detection system shall be provided in hazardous chemical storage and dispensing rooms when hazardous gas is in use in the room.

10.9.2.3 Gas Cabinets, Exhausted Enclosures, and Gas Rooms.

10.9.2.3.1 A gas-detection system shall be provided in gas cabinets and exhausted enclosures.

10.9.2.3.2 A gas-detection system shall be provided in gas rooms when gases are not located in gas cabinets or exhausted enclosures.

10.9.3 Gas-Detection System Operation.

10.9.3.1 Monitoring. Gas-monitoring equipment, when required by this standard to warn of the presence of leaked gas, shall be capable of detection and alarm initiation at or below the following gas concentrations:

- (1) Immediately dangerous to life or health (IDLH) values when the monitoring point is within an exhausted enclosure
- (2) PEL levels when the monitoring point is in an area outside an exhausted enclosure
- (3) Twenty-five percent of LFL when the monitoring point is within or outside an exhausted enclosure

10.9.3.2 Shutoff of Gas Supply. Gas-monitoring systems shall automatically close the nearest isolation valve upon high level (IDLH, PEL, and LEL) detection alarms:

- (1) At local gas boxes near the tool or in the tool gas jungle
- (2) At valve manifold boxes, shut down individual sticks
- (3) At the gas source
- (4) At the bulk source

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1803.13.2 Gas detection system operation. The continuous gas detection system shall be capable of monitoring the room, area or equipment in which the gas is located at or below all the following gas concentrations:

1. Immediately dangerous to life and health (IDLH) values when the monitoring point is within an exhausted enclosure, ventilated enclosure or gas cabinet.
2. Permissible exposure limit (PEL) levels when the monitoring point is in an area outside an exhausted enclosure, ventilated enclosure or gas cabinet.
3. For flammable gases, the monitoring detection threshold level shall be vapor concentrations in excess of 25 percent of the lower flammable limit (LFL) when the monitoring is within or outside an exhausted enclosure, ventilated enclosure or gas cabinet.
4. Except as noted in this section, ~~M~~onitoring for highly toxic and toxic gases shall also comply with Chapter 37.

3704.2.2.10 Gas detection system. A gas detection system shall be provided to detect the presence of gas ~~in the room, area or equipment in which the gas is located~~ at or below the PEL or ceiling limit of the gas for which detection is provided, ~~following gas concentrations:~~

- ~~1. Immediately dangerous to life and health (IDLH) values when the monitoring point is with an exhausted enclosure, ventilated enclosure or gas cabinet.~~
- ~~2. Permissible exposure limit (PEL) levels when the monitoring point is an area outside an exhausted enclosure, ventilated enclosure or gas cabinet.~~
3. The system shall be capable of monitoring the discharge from the treatment system at or below one-half the IDLH limit.

Exception: A gas detection system is not required for toxic gases when the physiological warning threshold level for the gas is at a level below the accepted PEL for the gas.

Committee Reason: The proposal will provide better correlation with the IMC and industry standards. The modification makes the change applicable only to semiconductor facilities by retaining the current text of Section 3704.2.2.10, clarifying that the other provisions of Chapter 37 still apply and clarifying that the intent of the proposal was not to change the monitoring requirements in occupied spaces, which could include exhausted enclosures.

Assembly Action:

None

Final Hearing Results

F147-06/07

AM

Code Change No: F151-06/07

Original Proposal

Table 1805.2.2

Proponent: Pat McLaughlin, McLaughlin & Associates, representing Semiconductor Industry Association

Revise table by deleting footnote a as follows:

**TABLE 1805.2.2
MAXIMUM QUANTITIES OF HPM AT A WORKSTATION^e**

HPM CLASSIFICATION	STATE	MAXIMUM QUANTITY
Flammable, highly toxic, pyrophoric and toxic combined	Gas	3 cylinders
	Liquid	15 gallons ^{a, b, c}
Flammable	Solid	5 pounds ^{b, c}
	Gas	3 cylinders
Corrosive	Liquid	Use-open system 25 gallons ^{a, c}
	Solid	Use-closed system: 150 gallons ^{a, c, f}
		20 pounds ^{b, c}
	Liquid	15 gallons ^{a, b}
Highly Toxic	Solid	5 pounds
	Gas	3 cylinders
Oxidizer	Liquid	Use-open system 12 gallons ^c
	Solid	Use-closed system 60 gallons ^{a, c}
		20 pounds ^{b, c}
	Liquid	0.5 gallons ^{d, g}
Pyrophoric	Solid	See Table 1804.2.2.1
	Liquid	Use-open system 15 gallons ^c
Toxic	Solid	Use-closed system 60 gallons ^{a, c}
		5 pounds ^{b, c}
	Liquid	0.5 gallon ^{b, c}
Unstable reactive Class 3	Solid	5 pounds ^{b, c}
	Liquid	0.5 gallons ^{d, g}
Water-reactive Class 3	Solid	See Table 1804.2.2.1

For SI: 1 pound = 0.454 kg. 1 gallon = 3.785 L.

~~a. DOT shipping containers with capacities of greater than 5.3 gallons shall not be located within a workstation.~~

(Renumber footnotes b through g to become a through f.)

Reason: IFC Section 1805.2.3 requires that workstations have the following safety features for spill control and containment:

Each workstation utilizing HPM liquids shall have all of the following:

1. Drainage piping systems connected to a compatible system for disposition of such liquids.
2. The work surface provided with a slope or other means for directing spilled materials to the containment or drainage system.
3. An approved means of containing or directing spilled or leaked liquids to the drainage system.

Allowing use of >5.3 gallon DOT containers an H-5 Occupancy will be consistent with what is allowed in the other H Occupancy groups, including sometimes without drainage, spill control or containment as is required in H-5 Occupancies.

This change will not increase degree of hazard at workstations because of the safety conditions required in IFC 1805.2.3.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent’s reason statement. The proposal will reduce the hazard associated with frequent cylinder exchanges.

Assembly Action:

None

Final Hearing Results

F151-06/07

AS

Code Change No: F152-06/07

Original Proposal

Table 1805.2.2

Proponent: Pat McLaughlin, McLaughlin & Associates, representing Semiconductor Industry Association

Revise table as follows:

**TABLE 1805.2.2
MAXIMUM QUANTITIES OF HPM AT A WORKSTATION^e**

HPM CLASSIFICATION	STATE	MAXIMUM QUANTITY
Flammable, highly toxic, pyrophoric and toxic combined	Gas	3-cylinders Combined aggregate volume of all cylinders at a workstation shall not exceed an internal cylinder volume of 39.6 gallons [150 liters] or 5.29 cf.
Corrosive	Gas	3-cylinders Combined aggregate volume of all cylinders at a workstation shall not exceed an internal cylinder volume of 39.6 gallons [150 liters] or 5.29 cf.
	Liquid	Use-open system 25 gallons ^{a, c}
	Solid	Use-closed system: 150 gallons ^{a, c, f} 20 pounds ^{b, c}
Oxidizer	Gas	3-cylinders Combined aggregate volume of all cylinders at a workstation shall not exceed an internal cylinder volume of 39.6 gallons [150 liters] or 5.29 cf.
	Liquid	Use-open system 12 gallons ^c
	Solid	Use-closed system 60 gallons ^{a, c} 20 pounds ^{b, c}

(Portions of table and footnotes not shown do not change)

Reason: The intent of the code in limiting the number of hazardous gas cylinders at a workstation is to limit the potential for harm to personnel within the facility. If the number of cylinders is limited to 3, as required by the code, the operators will have to frequently change out one type of gas with another in order to complete the manufacturing process. The only time an employee comes in contact with a hazardous gas cylinder is during change outs. Therefore by limiting the number of cylinders to 3, without regard to volume, in this particular instance the end result will be to increase the potential interaction between the operators and hazardous gases and thereby increase the potential for an accident. Under normal conditions in a many semiconductor workstations, a cylinder is changed on average once every 4 months but if only 3 gas cylinders are allowed, without considering the cylinder volume, then average 5 cylinder change outs per week may be necessary. The following safety features result in an increase rather than a decrease in the safety level, and with more efficiency.

VOLUME OF HPM GAS CONTAINERS

The maximum volume requested is the same as that contained in 3 standard cylinders while the actual quantity will be significantly less.

Some workstation gases are supplied in Air Products cylinder size D/4X (or equivalent) and in Praxair cylinder size of G (or equivalent) such that maximum 2 G type cylinders and maximum 6 D type cylinders will be located in any one workstation. This equates to $6 \times 3L = 18L$ plus $2 \times 7L = 14L$ for a total of 32L which is less than $1/4^{\text{th}}$ of that possible with 3 standard size cylinders.

The state of the art workstations today is a very precise machine and requires very small quantity of gas during operation. This improved precision allows less quantity of gas to be used during the process and therefore makes it safer than that anticipated by the code requirement which does not limit the quantity of gas in each cylinder.



Cylinder on the left is an "A" cylinder, next to d & 4X size cylinders.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will reduce the exposure of personnel to frequent cylinder changes and will facilitate operations.

Assembly Action:

None

Final Hearing Results

F152-06/07

AS

Code Change No: F154-06/07

Original Proposal

Section: 2209.4.1 (New)

Proponent: Thomas Joseph, Chair, Hydrogen Industry Panel on Codes

Add new text as follows:

2209.4.1 Dispensing systems. Dispensing systems shall be equipped with an overpressure protection device set at 140 percent of the service pressure of the fueling nozzle it supplies.

Reason: To prevent overpressure of the vehicle fuel system. Overpressure protection of the vehicles is provided by the fueling station system. This addition will ensure that overpressure protection of the vehicles is provided by the fueling system. CSA is currently in the process of developing hydrogen dispenser standards HG 4.1. However CSA's dispenser standard efforts will not be completed within ICC's 2006/2007 code cycle. To ensure safe fueling in the interim, overpressure protection should be added to this code cycle.

Nearly all of the hydrogen fuel cell vehicles that are currently deployed or will be deployed in the near future rely on the dispenser for overpressure protection. Similar language has been adopted in NFPA 52 2006 Edition and in Michigan's Department of Environmental Quality Waste and Hazardous Materials Division proposed hydrogen storage and dispensing rules. Additionally, similar language has been incorporated in the upcoming Society of Automotive Engineers SAE J2579 *Recommended Practice for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles*. SAE J2579 is being developed by the SAE Fuel Cell Vehicle (FCV) Safety Working Group (SWG) to provide recommended practices for Fuel Systems in Fuel Cell and Other Hydrogen Vehicles.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides a provision that is already in NFPA 52 to provide protection for vehicle tanks when they are connected for refilling.

Assembly Action:

None

Final Hearing Results

F154-06/07

AS

Code Change No: **F156-06/07**

Original Proposal

Sections: 2209.5.1.1(New), Chapter 45; IBC 406.5.2 (New), Chapter 35

Proponent: Thomas Joseph, Chair, Hydrogen Industry Panel on Codes

THIS PROPOSAL IS ON THE AGENDA OF THE IFC AND THE IBC GENERAL CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFC

1. Add new text as follows:

2209.5.1.1 Vehicle fueling pad. The vehicle fueling pad shall be constructed of a non-coated concrete pavement or shall have a resistivity not exceeding criteria of 1 megohm as measured using the methodology specified in *EN 1081*.

2. Add new standard to Chapter 45 as follows:

European Committee for Standardization (EN)
Central Secretariat
Rue de Stassart 36
B-10 50 Brussels

European Standard EN 1081: 1998 Resilient Floor Coverings – Determination of the Electrical Resistance

PART II – IBC General

406.5.2 Vehicle fueling pad. The vehicle fueling pad shall be constructed of a non-coated concrete pavement or shall have a resistivity not exceeding criteria of 1 megohm as measured using the methodology specified in *EN 1081*.

2. Add new standard to Chapter 35 as follows:

European Committee for Standardization (EN)
Central Secretariat
Rue de Stassart 36
B-10 50 Brussels

European Standard EN 1081: 1998 Resilient Floor Coverings – Determination of the Electrical Resistance

Reason: The current language does not address safety issues associated with electrostatic discharges (ESD).

Fueling surfaces for hydrogen powered vehicles should be at least as protective regarding ESD issues as those fueling surfaces used for petroleum powered vehicles. The 1 megohm criteria is cited from the *American Petroleum Institute (API) 2003 Recommended Practices (RP)*.

Substantiation: Paving material meeting the criteria specified in the language offered as Section 2209.5.1.1 will ensure the dissipation of static charge build up on the vehicle before the driver opens the door to fuel. Material Similar language has been used in Michigan's proposed Hydrogen Storage and Dispensing Rules.

Cost Impact: The code change proposal will increase the cost of construction.

Analysis: Results of review of the proposed standard(s) will be posted on the ICC Website by August 20, 2006.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Analysis: Review of the proposed new standard indicated that, in the opinion of ICC staff, the standard did not comply with ICC standards criteria, Sections 3.6.2.11 and 3.6.3.2.

PART I – IFC

Committee Action:

Disapproved

Committee Reason: It was unclear how the proposed standard for resilient floor coverings would apply to non-coated concrete.

Assembly Action:

None

PART II – IBC GENERAL

Committee Action:

Disapproved

Committee Reason: The standard proposed for inclusion had not been provided for review by the committee.

Assembly Action:

None

Public Hearing Results

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Parts I and II.

Public Comment:

Thomas Joseph, Chair, Hydrogen Industry Panel on Codes, requests Approval as Modified by this public comment for Part I and Part II.

Replace proposal with the following:

2209.5.1.1 Vehicle fueling pad. The vehicle fueling pad shall be of concrete or a material having a resistivity not exceeding 1 megohm as determined by an approved method.

406.5.2 Vehicle fueling pad. The vehicle fueling pad shall be of concrete or a material having a resistivity not exceeding 1 megohm as determined by an approved method.

Commenter's Reason: The current language does not address safety issues associated with electrostatic discharges (ESD). The Public Comment addresses IFC and IBC Committee concerns in that the proposal specifies plain concrete as the transfer surface material of choice, while clearly stating the antistatic performance of alternative materials.

Motor vehicles can acquire an electrostatic charge while traveling. The resistance offered by the tires through an un-coated concrete surface is low enough that this charge dissipates to ground very quickly (seconds or less). However, under dry conditions, an asphalt surface may offer sufficient resistance that the charge will not dissipate in a timely manner. A small number of incidents have occurred in Europe where a non-absorbent polymer, having unusually high resistance, was used at service stations to prevent soil contamination from gasoline spills. Therefore, paved surfaces that result in a resistance greater than one megohm should not be used.

Transfer surface materials meeting the criteria specified will provide for the dissipation of static charge built up on the vehicle before the driver opens the door initiate refueling.

The 1 megohm criteria is cited from the *American Petroleum Institute (API) 2003 Recommended Practices (RP)*. This language has also been proposed by the State of Michigan, Department of Environmental Quality – Waste and Hazardous Materials Division for Michigan's *Hydrogen Storage and Dispensing Rules*, and is consistent with changes proposed under the current cycle to NFPA 55-2005, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*. Addition of this language will provide the IFC with electrostatic discharge requirements for hydrogen refueling stations that are as protective as those for petroleum refueling stations with language aligned with modifications proposed to NFPA 55. Measurement of the resistivity of the vehicle fueling pad can be conducted using the *European Standard EN 1081 : 1998 Determination of Electrical Resistance – Resilient Floor Coverings*.

Cost Impact: The code change proposal will increase the cost of construction at service stations where materials other than plain concrete are proposed.

Final Hearing Results

F156-06/07, Part I

AMPC1

F156-06/07, Part II

AMPC1

Code Change No: F157-06/07

Original Proposal

Sections: 2211.7.2, 2211.7.2.1

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

2211.7.2 Gas detection system. Repair garages used for repair of vehicles fueled by nonodorized gases, such as hydrogen and nonodorized LNG, shall be provided with an ~~approved~~ flammable gas detection system.

2211.7.2.1 System design. The flammable gas detection system shall be listed and shall be calibrated to the types of fuels or gases used by vehicles to be repaired. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammable limit (LFL). Gas detection shall also be provided in lubrication or chassis repair pits of repair garages used for repairing nonodorized LNG-fueled vehicles.

Reason: Consistency with other gas detection requirements in Chapter 22. (See 2208.2.2 and 2209.2.2)

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2211.7.2 Gas detection system. Repair garages used for repair of vehicles fueled by nonodorized gases, such as hydrogen and nonodorized LNG, shall be provided with a flammable gas detection system.

2211.7.2.1 System design. The flammable gas detection system shall be listed or approved and shall be calibrated to the types of fuels or gases used by vehicles to be repaired. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammable limit (LFL). Gas detection shall also be provided in lubrication or chassis repair pits of repair garages used for repairing nonodorized LNG-fueled vehicles.

Committee Reason: The proposal adds consistency to the gas detection system requirements. The modification will provide an alternative approval to listing.

Assembly Action:

None

Final Hearing Results

F157-06/07

AM

Code Change No: F160-06/07

Original Proposal

Section: 2403.12.6.1

Proponent: Rick Thornberry, P.E., The Code Consortium, Inc., representing American Pyrotechnics Association

Revise as follows:

2403.12.6.1 Exit sign illumination. Exit signs shall be ~~of an approved~~ listed and labeled as a self-luminous type having a minimum duration of 90 minutes luminosity or shall be internally or externally illuminated by luminaires supplied in the following manner:

1. Two separate circuits, one of which shall be separate from all other circuits, for occupant loads of 300 or less; or
2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided when the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-site generator set, and the system shall be installed in accordance with the *International Code Council Electrical Code Administrative Provisions*. The emergency system provided shall have a minimum duration of 90 minutes when operated at full design demand.

Reason: This code change proposal accomplishes basically two things. First, it specifies that self-luminous type exit signs shall be labeled rather than approved as they are now available based on testing in accordance with nationally recognized standards. Second, it specifies the minimum duration that the self-luminous sign must maintain its luminosity or the emergency power must maintain its operation at full design demand at 90 minutes. This is consistent with the requirements for the illumination of exit signs in Section 1011.5.3 of the 2006 *International Building Code*.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal adds a needed duration factor for sign illumination consistent with Section 1011.5.3.

Assembly Action:

None

Final Hearing Results

F160-06/07

AS

Code Change No: F161-06/07

Original Proposal

Section: 2404.1

Proponent: Rick Thornberry, P.E., The Code Consortium, Inc., representing American Pyrotechnics Association

Revise as follows:

2401.1 Scope. Tents, canopies and membrane structures shall comply with this chapter. The provisions of Section 2403 are applicable only to temporary tents, canopies and membrane structures. The provisions of Section 2404 are applicable to temporary and permanent tents, canopies and membrane structures.

Reason: This code change proposal simply clarifies the scoping statement for Chapter 24. Membrane structures are defined differently than tents and canopies so they need to be included when referring to the requirements of Sections 2403 and 2404.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal adds needed clarity as to the applicability of Chapter 24.

Assembly Action:**None**

Final Hearing Results

F161-06/07**AS**

Code Change No: F162-06/07

Original Proposal

Sections: 2404.5, 2404.21, 2404.22

Proponent: Rick Thornberry, P.E., The Code Consortium, Inc., representing American Pyrotechnics Association

Revise as follows:

2404.5 Combustible materials. Hay, straw, shavings or similar combustible materials shall not be located within any tent, canopy or membrane structure containing an assembly occupancy, except the materials necessary for the daily feeding and caring of animals. Sawdust and shavings utilized for a public performance or exhibit shall not be prohibited provided the sawdust and shavings are kept damp. Combustible materials shall not be permitted under stands or seats at any time. ~~The areas within and adjacent to the tent or air-supported structure shall be maintained clear of all combustible materials or vegetation that could create a fire hazard within 20 feet (6096 mm) of the structure. Combustible trash shall be removed at least once a day from the structure during the period the structure is occupied by the public.~~

2404.21 Combustible Vegetation removal. Combustible vegetation that could create a fire hazard shall be removed from the area occupied by a tent, canopy or membrane structure, and from areas within 30 feet (9144 mm) of such structures.

2404.22 Combustible waste material. The floor surface inside tents, canopies or membrane structures and the grounds outside and within a 30 foot (9144 mm) perimeter shall be kept clear of combustible waste and other combustible materials that could create a fire hazard. Such waste shall be stored in approved containers and shall be ~~untill~~ removed from the premises at least once a day during the period the structure is occupied by the public.

Reason: This code change proposal is similar to a companion a code change proposal which intends to accomplish the same thing: to correlate and clarify the requirements for combustible materials and vegetation within and in close proximity to tents, canopies, and membrane structures. These three sections deal with those issues but are not consistent. In this code change proposal we do not modify the separation distance of 30 feet for combustibles in Sections 2404.21 and 2404.22. We simply maintain the current requirements but deleted the separation distance requirement of 20 feet contained in Section 2404.5 which is in conflict. This gives the Committee the choice of which separation distances are appropriate so that they can approve one of these code changes in order to correlate the code regarding these combustible materials and their proximity to tents, canopies, and membrane structures.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides needed correlation of terminology among the several sections on the same subject.

Assembly Action:

None

Final Hearing Results

F162-06/07

AS

Code Change No: F164-06/07

Original Proposal

Section: 2404.11

Proponent: Rick Thornberry, P.E., The Code Consortium, Inc., representing American Pyrotechnics Association

Revise as follows:

2404.11 Clearance. There shall be a minimum clearance of at least 3 feet (914 mm) between the fabric envelope and all contents located inside ~~the tent or~~ membrane structures.

Reason: This code change proposal corrects an error that was made when this chapter was completely revised to reorganize and clarify the requirements for tents, canopies, and membrane structures. We talked with the proponent of that code change proposal who indicated that it was not his intent to require that the fabric envelope and the contents of tents be separated by 3 feet. This is specifically a requirement for membrane structures which is the same as contained from the original source documents from which the rewrite was developed. It is important to maintain the minimum clearance of 3 feet between the fabric envelope and the contents of membrane structures since the fabric envelope may be a structural element, so to speak, of the membrane structure and should be available for inspection, as well as to prevent accidental contact that may tear or otherwise damage the fabric envelope. This is not the case for tents where the fabric envelope is simply provided as a weather and sun shield and is not structural. To our knowledge there was no similar requirement in any of the previous legacy model fire codes that were used to develop the *International Fire Code*. We are also not aware of any technical justification to support the 3 foot clearance between the fabric envelope and the contents within a tent.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal corrects an apparent error in the 2003/2004 cycle rewrite of Chapter 24.

Assembly Action:

None

Final Hearing Results

F164-06/07

AS

Code Change No: F165-06/07

Original Proposal

Section: 2605.2.1 (New)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Revise as follows:

2605.2 Cylinder and container storage, handling and use. Storage, handling and use of compressed gas cylinders, containers and tanks shall be in accordance with this section and Chapter 30.

2605.2.1 Cylinders connected for use. The storage or use of a single cylinder of oxygen and a single cylinder of fuel-gas located on a cart shall be allowed without requiring the cylinders to be separated in accordance with Sections 2703.9.8 or 2703.10.3.6 when the cylinders are connected to regulators, ready for service, equipped with apparatus designed for cutting or welding and the following:

1. Carts shall be kept away from the cutting or welding operation in accordance with Section 2605.5 or fire-resistant shields shall be provided.
2. Cylinders shall be secured to the cart to resist movement.
3. Carts shall be in accordance with Section 2703.10.3.
4. Cylinder valves not having fixed hand wheels shall have keys, handles, or nonadjustable wrenches on valve stems while the cylinders are in service.
5. Cylinder valve outlet connections shall conform to the requirements of CGA V-1.
6. Cylinder valves shall be closed when work is finished.
7. Cylinder valves shall be closed before moving the cart.

Reason: The use of "welding carts" has been common practice as a means to secure cylinders of oxygen and fuel-gas used in cutting and welding operations. The carts serve as a means to secure cylinders as well as a means to hold flexible hose, torches and in some cases safety equipment such as goggles or eye shields and welding rod. The requirements for separation of incompatible materials under the requirements of Sections 2703.9.8 and 2703.10.3.6 presents a practical difficulty when the quantity of materials is limited. Excepting a single cylinder of oxygen and fuel-gas with additional controls to address the use condition provides a more comprehensive approach to safe use compared to that of prohibition that is out of convention. Specifying the minimum control for valves and their operation to include mandating the use of standard connections as prescribed by standards referenced in Chapter 45 (CGA V-1) enhances the overall safety of the system.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent’s reason statement. The proposal provides reasonable storage requirements for cylinders connected for use, as on welding carts.

Assembly Action: **None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Larry Fluor, Fluor, Inc., representing Compressed Gas Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

2605.2.1.1 Individual cart separation. Individual carts in accordance with 2605.2.1 shall be separated from each other in accordance with Section 2703.9.8.

(Portions of proposal not shown remain unchanged)

Commenter’s Reason: During the public testimony one of the committee members raised a question regarding the separation of multiple carts. The code change was focused on single cylinders on individual carts, and multiple carts were not considered. If the number of carts were to grow, the quantity controls imposed by the Maximum Allowable Quantities (MAQ) would trigger the use of an H Occupancy when the MAQ of 1,000 cubic feet of flammable gas was exceeded (three or four carts depending on the fuel gas). However, using MAQ as a control was not the intent of the code change.

The addition of a new subsection to require that individual carts be separated in accordance with Section 2703.9.8 solves the problem raised in committee discussion by recognizing the allowance created to allow a single cylinder of oxidizing gas and single cylinder of fuel gas to be located on an individual cart while addressing the concern expressed with multiple carts while maintaining the intent of the code change.

Final Hearing Results

F165-06/07

AMPC1

Code Change No: F168-06/07

Original Proposal

Table 2703.1.1(1) [IBC Table [F] 307.1(1)], Table 2703.1.1(2) [IBC Table [F] 307.1(2)], 2703.9.10 (New), Chapter 45

Proponent: Lynne M. Kilpatrick, Fire Department, City of Seattle, WA

1. Revise tables as follows:

**TABLE 2703.1.1(1) [IBC [F] TABLE 307.1(1)]
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA
OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD ^{a,j m, n, p}**

- e. Maximum allowable quantities shall be increased 100 percent when stored in approved ~~storage cabinets~~, gas cabinets, exhausted enclosures, listed storage cabinets or listed safety cans. Where Note d also applies, the increase for both notes shall be applied accumulatively.

(Portions of table and footnotes not shown do not change)

**TABLE 2703.1.1(2) [IBC [F] TABLE 307.1(2)]
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA
OF HAZARDOUS MATERIALS POSING A HEALTH HAZARD^{a, b, c, j}**

- f. Maximum allowable quantities shall be increased 100 percent when stored in approved ~~storage cabinets~~, gas cabinets, ~~or exhausted enclosures or listed storage cabinets~~. Where Note e also applies, the increase for both notes shall be applied accumulatively.

2. Add new text as follows:

2703.9.10 Safety cans. Safety cans shall be listed in accordance with UL 30 when used to increase the maximum allowable quantities of flammable or combustible liquids in accordance with Table 2703.1.1(1) or Table 2703.1.1(3). Safety cans listed in accordance with UL 1313 are allowed for flammable and combustible liquids when not used to increase the maximum allowable quantities and for other hazardous material liquids in accordance with the listing.

3. Add standard to Chapter 45 as follows:

Underwriters Laboratories

1313-98 Standard for Nonmetallic Safety Cans for Petroleum Products

Reason: Part 1: The addition of "listed" in the footnote Table 2703.1.1 (1) and Table 2703.1.1 (2) for the safety cans and storage cabinets is to ensure that if a 100% increase in the maximum allowable quantity is to be applied for the material, the safety cans or the storage cabinets have met rigorous testing requirements.

UL 30 should be used for requirements covering metal safety cans that have nominal capacities of five gallons (18.9 L) or less and that are primarily intended to store and handle flammable and combustible liquids, such as gasoline, naphtha, kerosene, acetone, MEK, and similar liquids. The standard has over 75 years of experience testing safety cans and conducts 10 different testing phases that include a stability test, drop test, leakage test, handle and nozzle strength test, and fire exposure test.

UL 1313 should be used for requirements that cover nonmetallic safety cans having nominal capacities of 5 Imperial gallons or less and are primarily for the storage of combustible and some flammable liquids. This standard has 15 performance tests including, drop test, leak test, direct flame test, two different fire exposures test to name a few. Footnote (e) is located in many of the material categorize beyond flammable and combustible liquids. The use of this standard allows different materials that can be compatible to the can's construction material and product stored. This change will provide the code official an opportunity to ensure that products that are not compatible with the listed safety can are not stored improperly.

The standard UL 1275 for liquid storage cabinets is a critical safety feature in the storage of flammable and combustible liquids. The use of these cabinets continues to be an option that provides the code official and owner's flexibility for where the liquids can be stored and the ability for smaller (120 gallons) amounts to be located within manufacturing areas to reduce handling throughout the site. UL 1275 provides specific construction requirements for the cabinet, including sheet metal thickness, type joints, air space for the double walls, and venting to name a few. The standard includes a rigorous fire endurance test and leakage test. These add up to a cabinet that provides the needed protection feature to justify the doubling of the maximum allowable quantity for a control area. Currently, UL 1275 has tested many metal and wood cabinets.

Part 2: The addition of this new section will provide guidance to the code user regarding listed safety cans when they are utilized for general safety reasons and when utilized to take advantage of increasing the maximum allowable quantities of hazardous material liquids in a control area. This new Section requires the use of metal safety cans for flammable and combustible liquids if those cans are being used to increase quantities in a control area. It would allow for nonmetallic safety cans listed to UL1313 to be utilized to increase the maximum allowable quantities of other hazardous material liquids in accordance with Table 2703.1.1(1) and for the general safety of flammable and combustible liquids. Including this requirement for a UL listed safety cans in this code cycle provides some advance notice of the potential cost increase prior to publication in the 2009 IFC and allows for business to prepare for such a change.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Errata: The following was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

F168-06/07, Item 5: The correct edition of the proposed referenced standard is "UL 1313-93 – with revisions through May 2003"

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of the proposed new standard indicated that, in the opinion of ICC staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Modified

Modify the proposal as follows:

**TABLE 2703.1.1(1) [IBC [F] TABLE 307.1(1)]
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA
OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD^{a, j, m, n, p}**

- e. Maximum allowable quantities shall be increased 100 percent when stored in approved ~~storage cabinets~~, gas cabinets, exhausted enclosures, ~~listed storage cabinets~~ or listed safety cans. Where Note d also applies, the increase for both notes shall be applied accumulatively.

(Portions of table and footnotes not shown remain unchanged)

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

**TABLE 2703.1.1(2) [IBC [F] TABLE 307.1(2)]
 MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA
 OF HAZARDOUS MATERIALS POSING A HEALTH HAZARD^{a, b, c, j}**

f. Maximum allowable quantities shall be increased 100 percent when stored in approved ~~storage cabinets~~, gas cabinets, or exhausted enclosures ~~or listed storage cabinets~~. Where Note e also applies, the increase for both notes shall be applied accumulatively.

(Portions of proposal not shown remain unchanged)

Committee Reason: Based on the proponent's reason statement. The proposal adds an important requirement that safety cans be listed to specific standards, depending on their use. The modifications recognize that listed storage cabinets are only listed for flammable and combustible liquid storage and that the current use of the phrase "approved storage cabinets" is more appropriate.

Assembly Action:

None

Final Hearing Results

F168-06/07

AM

Code Change No: F169-06/07

Original Proposal

Tables 2703.1.1(1) [IBC Table [F]307.1(1)], 2703.1.1.(2) [IBC Table [F]307.1(2)], 2703.1.1(3), 2703.1.1(4)]

Proponent: Larry Fluor, Fluor, Inc., representing Compressed Gas Association

1. Revise tables as follows:

**TABLE 2703.1.1(1) [IBC [F] 307.1(1)]
 MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF
 HAZARDOUS MATERIAL POSING A PHYSICAL HAZARD^{a, j, m, n}**

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b		
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP
Flammable gas	Gaseous	H-2	Not Applicable	Not Applicable	1,000 ^{d, e}	Not Applicable	Not Applicable	1,000 ^{d, e}
	Liquefied		(150) 30 ^{d, e}	Not Applicable	(150) 30 ^{d, e}	Not Applicable		
Oxidizing gas	Gaseous	H-3	Not Applicable	Not Applicable	1,500 ^{d, e}	Not Applicable	Not Applicable	1,500 ^{d, e}
	Liquefied		(150) 45 ^{d, e}	Not Applicable	(150) 45 ^{d, e}	Not Applicable		

(Portions of table and footnotes not shown do not change)

**TABLE 2703.1.1(2) [IBC [F] 307.1(2)]
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF
HAZARDOUS MATERIAL POSING A HEALTH HAZARD^{a,b,c,j}**

Material	STORAGE ^d			USE - CLOSED SYSTEMS ^d			USE - OPEN SYSTEMS ^d	
	Solid pounds ^{e,f}	Liquid gallons (pounds) ^{e,f}	Gas Cubic feet (pounds) ^e	Solid pounds ^e	Liquid gallons ^e	Gas Cubic feet (pounds) ^e	Solid pounds ^e	Liquid gallons ^e
Corrosives	5000	500	<u>Gaseous</u> 810 ^{t, g} <u>Liquefied</u> (150) ^t	5000	500	<u>Gaseous</u> 810 ^{t, g} <u>Liquefied</u> (150) ^t	1000	100
Highly Toxics	10	(10) ^t	<u>Gaseous</u> 20 ^h <u>Liquefied</u> (4) ^{h, i}	10	(10) ^t	<u>Gaseous</u> 20 ^h <u>Liquefied</u> (4) ^{h, i}	3	(3) ^t
Toxics	500	(500) ^t	<u>Gaseous</u> 810 ^t <u>Liquefied</u> (150) ^{t, r}	500	(500) ^t	<u>Gaseous</u> 810 ^t <u>Liquefied</u> (150) ^{t, r}	125	(125) ^t

a. through f. (No change to current text)

~~g. A single cylinder containing 150 pounds or less of anhydrous ammonia in a single control area in a nonsprinklered building shall be considered a maximum allowable quantity. Two cylinders, each containing 150 pounds or less in a single control area shall be considered a maximum allowable quantity provided the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.~~

h. through j. Renumber to become g. through i (No change to current text)

**TABLE 2703.1.1(3)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL
POSING A PHYSICAL HAZARD IN AN OUTDOOR CONTROL AREA^{a,b,c}**

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b		
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP
Flammable gas	Gaseous	H-2	Not Applicable	Not Applicable	3000	Not Applicable	Not Applicable	1500
	Liquefied			(300) 30	Not Applicable		(150) 45	Not Applicable
Oxidizing gas	Gaseous	H-3	Not Applicable	Not Applicable	6000	Not Applicable	Not Applicable	3000
	Liquefied			(600) 60	Not Applicable		(300) 30	Not Applicable

(Portions of table and footnotes not shown do not change)

**TABLE 2703.1.1(4)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL
POSING A HEALTH HAZARD IN AN OUTDOOR CONTROL AREA^{a,b,c}**

Material	STORAGE			USE - CLOSED SYSTEMS			USE - OPEN SYSTEMS	
	Solid pounds	Liquid gallons (pounds)	Gas Cubic feet (pounds)	Solid pounds	Liquid gallons	Gas Cubic feet (pounds)	Solid pounds	Liquid gallons
Corrosives	20,000	2,000	<u>Gaseous</u> 1,620 ^g <u>Liquefied</u> (300) ^t	10,000	1,000	<u>Gaseous</u> 810 ^g <u>Liquefied</u> (150) ^t	1,000	100
Highly Toxics	20	(20) ^t	<u>Gaseous</u> 40 ^d <u>Liquefied</u> (8) ^{d, r}	10	(10) ^t	<u>Gaseous</u> 20 ^d <u>Liquefied</u> (4) ^{d, r}	3	(3) ^t
Toxics	1,000	(1,000) ^{e, r}	<u>Gaseous</u> 1,620 <u>Liquefied</u> (300) ^t	500	50 ^c	<u>Gaseous</u> 810 <u>Liquefied</u> (150) ^t	25	(25) ^{e, r}

a. through f. (No change to current text)

~~g. Two cylinders, each cylinder containing 150 pounds or less of anhydrous ammonia, shall be considered a maximum allowable quantity in an outdoor control area.~~

Reason: (General) applicable to all tables: The unit of measure for liquefied gases has historically been incorporated into the MAQ tables in terms of gallons as it has been conventional to think of ordinary liquids in terms of gallons. From a practical standpoint the use of gallons as a unit of measure for liquefied gases introduces an inconsistency into the concept due to the fact that unlike most liquids the density of liquefied gases varies widely. In commerce, liquefied gases are packaged and distributed based on weight being used as the unit of measure. Revising the MAQ tables to reflect threshold quantities in terms with units of measure that are readily available from the commercial market will greatly simplify the use of the code thereby making it more user friendly. To do so requires that a model be used as the basis for comparison. This approach was taken when thresholds were revised to base certain health hazard thresholds levels using a “chlorine index” as the model. A similar approach is proposed as a means to simplify the use of these tables.

Table 2703.1.1(1): Flammable gases (liquefied): In the case of liquefied flammable gases probably the most commonly encountered liquefied gas is LPG. LPG as defined can consist of propane, butane, propylene or others either in a mixed or pure form. NFPA 58 Table B.1.2(a) lists the approximate densities of commercial propane and butane at 60 degrees F as 4.20 and 4.81 pounds per gallon respectively. Converting the 30 gallon quantity to pounds and rounding up to the closest five pounds yields a quantity of 150 pounds on a weight basis. The density of butane is greater than that of propane therefore representing the worst case where mixtures of propane and butane are involved. The result of converting the 30 gallon threshold to a 150 pound threshold is in keeping with the philosophical approach used with gases such as ammonia and chlorine as they appear in Table 2703.1.1(2).

Oxidizing gases (liquefied): The threshold level of 15 gallons for oxidizing gases can be expressed in terms of weight based on using any of a number of oxidizing gases as the baseline. However, given the fact that a single cylinder of chlorine (an oxidizing, corrosive and toxic gas) has been used as the baseline in Table 2703.1.1(2) it is reasonable to use a single cylinder of chlorine as the baseline for the establishment of quantity in Table 2703.1.1(1) as well. To test the assumption a comparison was made to the 1500 cubic foot baseline maximum quantity for a non-liquefied gas using oxygen as the model. Using a specific volume for oxygen of 12.1 cubic feet per pound translates the 1500 cubic feet allowed for the baseline MAQ to 125 pounds if this gas was considered on a weight basis. The use of 150 pounds as a baseline quantity for liquefied oxidizing gases resolves the problem where a single cylinder of chlorine would NOT trip the H-4 threshold, but WOULD trip the H-3 threshold where arguably the inherent health hazards of the gas may represent a greater concern for public safety than do the physical hazards of the same gas.

It is recognized that this approach may appear to represent a major increase in the threshold for liquefied oxidizing gases; however, it brings the threshold levels into parity with those of liquefied flammable gases which may represent the greater hazard given the potential for fire and/or explosion. The example using oxygen as the baseline shows that an increase is justified. By supporting the change there is established a clear rationale that is based on practical examples of materials commonly found in commerce which have generally been accepted for use as the threshold for an increased level of control. In addition, the use of weight as a unit of measure brings the code into sync with units typically used by the suppliers of these products thereby mitigating the need for elaborate conversions into units of measure not found in common use.

Table 2703.1.1(2): The MAQ for corrosive and toxic gases established in Table 2703.1.1(2) of 810 cubic feet was based on a single cylinder of chlorine. Footnote g in the table was added to recognize that a single cylinder of ammonia should be allowed, however, the use of 810 did not allow for this given the fact that by comparison a 150 pound cylinder of ammonia contains over 3,300 cubic feet of gas. The preferred solution in lieu of trying to justify or create a series of footnotes to address individual gases is to use an index system that establishes a standardized approach. The concept of using a widely distributed gas such as chlorine as an index to establish the unit of measure has been established. However, the unit of measure in terms of weight was not carried into the table when it was formulated thereby creating the need for the use of footnotes to address ammonia. Compressed gases may be in liquid form or they may be gaseous. By maintaining the use of chlorine as the index to the table for toxic and corrosive properties and listing the threshold for liquefied gases as well as those that are nonliquefied eliminates the need for elaborate conversions in units of measure using data that in many cases is not readily available. The index used to establish the weight threshold is based on the use of arsine, a highly toxic gas with a specific volume of 5.0 cubic feet per pound.

It may be argued that by recognizing the common forms of gases, e.g., liquefied and nonliquefied allows a defacto increase in the threshold levels applied. It is possible that one could have a toxic gas that is liquefied and also one that is nonliquefied in the same area therefore doubling the aggregate quantity of gas if all was considered. While this is theoretically possible, it is not considered to be the norm. In addition, there is precedent in using the approach as established in Table 2703.1.1(1) for flammable and oxidizing gases.

Table 2703.1.1(3): The concept of “outdoor control areas” was introduced into the code as a means to establish a threshold where the general provisions of Chapter 27 would apply. When Table 2703.1.1(3) was created the logic for assignment of threshold values was primarily based on the use of multipliers representing a multiple increase of the basic tabular values shown in Table 2703.1.1(1). In the First Draft of the code Table 2703.1.1(3) was Table 2803.1-C and the quantities of gaseous and liquefied flammable gases were limited to 1500 cubic feet and 15 gallons respectively. The result was that the threshold level for liquefied flammable gases in interior areas was greater than that allowed for the same commodity when stored in outdoor areas. Assuming that the threshold level of 30 gallons for indoor areas was correct, the value of 15 gallons shown for outdoor areas is believed to have been in error. Code change F1324-98 submitted by proponent Mr. George G. Verbruyck increased the threshold quantities for flammable and oxidizing gases (as well as a number of other commodities including combustible liquids, cryogenics, flammable liquids, flammable solids, organic peroxides, oxidizers, pyrophorics, unstable reactives and water reactives) in storage in outdoor areas by a factor of 2 resulting in the increase to for liquefied flammable gases from 15 to 30 gallons, and the inconsistency was perpetuated.

There may be those that argue that the 30 gallon threshold imposed by Table 2703.1.1(1) should have been 15 gallons when the First Draft was printed; however, it appears that the 30 gallon limit was established and the inconsistencies that followed have been perpetuated. The proposed code change is made to 1) correct the inconsistency in the table for liquefied flammable gases, and 2) to change the unit of measure to units of weight rather than those of volume to eliminate confusing and elaborate calculations thereby bringing the code closer into harmony with the commercial environment. The index system used to obtain a unit of measure for weight is based on multiples for a single 150 pound cylinder of butane for flammable gases and a single 150 pound cylinder for chlorine. The change made for oxidizing gases has been made for consistency and to correlate in concept with conversion to a weight basis.

Table 2703.1.1(4): A weight unit of measure has been established for liquefied gases, and the table has been revised to recognize that these materials may exist in liquid as well as gaseous form. The index system used to establish the quantity for toxics and corrosives is based on multiples of a single 150 pound cylinder of chlorine. The index system used to establish the threshold quantity for highly toxic liquefied gases is based on arsine, a highly toxic gas with a specific volume of 5.0 cubic feet per pound.

In preparing this code change it appears that the quantities listed for toxic solids and liquids in open use are in error, and that the 25 pounds indicated should be 125 pounds in each case. The original code change was introduced as F1309-98 by Mr. George V. Verbruyck. By using weight rather than cubic footage as a unit of measure, there is not need to perpetuate footnote g as the variability of density has been accommodated. Both ammonia and chlorine are packaged as liquefied compressed gases.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal revises the tables to reflect a more accurate, standardized measurement of liquefied gases.

Assembly Action:

None

Final Hearing Results

F169-06/07

AS

Code Change No: F171-06/07

Original Proposal

Sections: 2704.7 (IBC [F] 414.5.4)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Revise as follows:

2704.7 Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with the *International Code Council Electrical Code Administrative Provisions* and Section 604.

Exceptions:

1. Storage areas for Class 1 and 2 oxidizers.
2. Storage areas for Class II, III, IV and V organic peroxides.
3. Storage areas for asphyxiant, irritant and radioactive gases.
3. 4. For storage areas for highly toxic or toxic materials, see Sections 3704.2.2.8 and 3704.3.2.6.
4. 5. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

Reason: Unlike the requirements for other hazard categories which use the Maximum Allowable Quantity Per Control Area (MAQ) as a trigger threshold, the requirement for ventilation in storage areas containing asphyxiant, irritant and radioactive gases is not quantity based. Ventilation under the requirements of Section 3007.2 is only required in storage areas when the building is occupied.

Providing ventilation in areas where compressed gases are stored or used is fundamental, whether standby power as a redundant control is fundamental for any quantity of this particular group of gases is warranted is questionable given the fact that standby or emergency power is not required for flammables, corrosives, oxidizing, toxic, highly toxic, unstable reactive or other hazard classes until the MAQ is exceeded. An MAQ was not established for this group of materials when the provision was introduced to the code based on the lack of defined physical or health hazards that represent the Group H occupancies in general.

The construction of compressed gas containers is robust compared to the containers used for other materials that may be of glass, plastic or paper. The integrity of the containers alone represents a major safeguard against likely failure. While leakage from containers is a consideration the concern the reestablishment of power to the ventilation system within a 60 second period is not warranted given the fact that the requirement could be imposed for insignificant quantities of the gas, and given the fact that occupancy of a storage area during power out conditions is not the norm.

The change to Exception 2 to add Class II organic peroxides to the list of exceptions is to correlate the requirements with Section 3904.1.11 which requires standby power only for Class I and unclassified detonable organic peroxides.

IBC: Correlation with IFC Section 2704.7. Exception No. 1, the characters for oxidizers should be Arabic not Roman. Exception. 2 is to correlate with IFC Section 3904.1.11.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will provide correlation between Sections 2704.7 and 3007.2.

Assembly Action:

None

Final Hearing Results

F171-06/07

AS

Code Change No: **F173-06/07**

Original Proposal

Section: 3006.2

Proponent: Lynne M. Kilpatrick, Fire Department, City of Seattle, WA

Revise as follows:

3006.2 Interior supply location. Medical gases shall be stored in areas dedicated to the storage of such gases without other storage or uses. Where containers of medical gases in quantities greater than the permit amount are located inside buildings, they shall be in a 1-hour exterior room, a 1-hour interior room or a gas cabinet in accordance with Section 3006.2.1, 3006.2.2 or 3006.2.3. Storage of hazardous medical gases exceeding the maximum allowable quantity per control area as set forth in Section 2703.1 shall also be in accordance with Chapter 27 and the appropriate material specific chapters.

Reason: The proposed code change clarifies that even though a medical gas room in accordance with Section 3006.2 is provided for medical gas quantities over the permit threshold, once the maximum allowable quantity has been exceeded any additional requirements set forth in Chapter 27 and the hazard specific chapters for storage of hazardous gases must also be met.

Cost Impact: The code change proposal will increase the cost of construction when the maximum allowable quantity is exceeded.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

3006.2 Interior supply location. Medical gases shall be stored in areas dedicated to the storage of such gases without other storage or uses. Where containers of medical gases in quantities greater than the permit amount are located inside buildings, they shall be in a 1-hour exterior room, a 1-hour interior room or a gas cabinet in accordance with Section 3006.2.1, 3006.2.2 or 3006.2.3. Rooms or areas where ~~Storage of~~ hazardous medical gases are stored or used in quantities exceeding the maximum allowable quantity per control area as set forth in Section 2703.1 shall also be in accordance with Chapter 27 and the appropriate material specific chapters the *International Building Code* for high hazard Group H occupancies.

Committee Reason: Based on the proponent's reason statement. The proposal clarifies that when the maximum allowable quantity of hazardous medical gases is reached, all provisions of the code for Group H apply. The modification further clarifies the code by indicating that it is the application of the IBC that determines Group H construction requirements.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

John Williams, Washington State Department of Health – Construction Review Service, requests Approval as Modified by this public comment.

Further modify proposal as follows:

3006.2 Interior supply location. Medical gases shall be stored in areas dedicated to the storage of such gases without other storage or uses. Where containers of medical gases in quantities greater than the permit amount are located inside buildings, they shall be in a 1-hour exterior room, a 1-hour interior room or a gas cabinet in accordance with Section 3006.2.1, 3006.2.2 or 3006.2.3. Rooms or areas where ~~hazardous~~ medical gases are stored or used in quantities exceeding the maximum allowable quantity per control area as set forth in Section 2703.1 shall be in accordance with the *International Building Code* for high hazard Group H occupancies.

Commenter's Reason: Having the word "hazardous" in front of "medical gases" creates an undefined term that will cause confusion. This introduces a concept of classification that does not exist. Throughout this section medical gases are referred to as simply "medical gases." This term should remain consistent.

Final Hearing Results

F173-06/07

AMPC1

Code Change No: F174-06/07

Original Proposal

Section: 3202.1

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Add new definition as follows:

3202.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

OXIDIZING CRYOGENIC FLUID. An oxidizing gas in the cryogenic state.

Reason: The term "oxidizing cryogenic fluid" is used in Section 3201.1 in this form, and in Table 2703.1.1(1) and Appendix F Table F101.2 as cryogenic, oxidizing. The term needs to be defined so that it is clear. Section 3202.1 is used to define flammable cryogenic fluid and although the term may be used elsewhere, it seems most appropriate to include the definition in Chapter 32 given the fact that Chapter 32 is titled "Cryogenic Fluids."

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal provides a needed definition for a term currently used in the code.

Assembly Action:**None**

Final Hearing Results

F174-06/07

AS

Code Change No: F176-06/07

Original Proposal

Section: 3301.1.3

Proponent: Rick Thornberry, P.E., The Code Consortium, Inc., representing American Pyrotechnics Association

Revise as follows:

3301.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

Exceptions:

1. Storage and handling of fireworks as allowed in Section 3304.
2. Manufacture, assembly and testing of fireworks as allowed in Section 3305.
3. The use of fireworks for fireworks displays as allowed in Section 3308.
4. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided such fireworks comply with CPSC 16 CFR, Parts 1, 500 and 1507, and DOTn 49 CFR, Parts 100-178, for consumer fireworks.

Reason: This code change proposal simply clarifies Exception 3 to Section 3301.1.3. It utilizes the defined term "fireworks display" which is defined in Section 3302.1. This would also make it consistent with the title to Section 3308 which is referenced in this exception.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the intent of the code in using the term "displays".

Assembly Action:

None

Final Hearing Results

F176-06/07

AS

Code Change No: F179-06/07

Original Proposal

Section: 3307.4

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

3307.4 Restricted hours. Surface-blasting operations shall only be conducted during daylight hours between sunrise and sunset. Other blasting shall be performed during daylight hours unless otherwise approved by the fire code official.

Reason: This change is to provide some specificity on the acceptable daylight hours that a blasting operation may take place. The time of sunrise and sunset is commonly advertised through various media sources.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal adds specific guidance for the fire code official in determining sufficient natural light for blasting.

Assembly Action:

None

Final Hearing Results

F179-06/07

AS

Code Change No: F180-06/07

Original Proposal

Sections: 3308.1 through 3308.4, 3308.5.3 through 3308.5.5, 3308.8, 3308.9, 3302.1

Proponent: Rick Thornberry, P.E., The Code Consortium, Inc., representing American Pyrotechnics Association

1. Revise as follows:

**SECTION 3308
FIREWORKS DISPLAYS**

3308.1 General. ~~The display of Outdoor fireworks displays, including use of pyrotechnics before a proximate audience displays, and pyrotechnic special effects in motion picture, television, theatrical, and group entertainment productions, shall comply with this chapter section and NFPA 1123 or NFPA 1126.~~

3308.2 Permit application. Prior to issuing permits for a fireworks display, plans for the fireworks display, inspections of the display site and demonstrations of the display operations shall be approved. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar or fails to function over the fallout area or other malfunctions shall be provided to the fire code official.

3308.2.1 Outdoor fireworks displays. In addition to the requirements of Section 403, permit applications for outdoor fireworks displays using Division 1.3G fireworks shall include a diagram of the location at which the fireworks display will be conducted, including the site from which fireworks will discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.

3308.2.2 Use of pyrotechnics before a proximate audience displays. Where the separation distances required in Section 3308.4 and NFPA 1123 are unavailable or cannot be secured, ~~only proximate audience fireworks displays shall be conducted in accordance with NFPA 1126 for proximate audiences shall be allowed.~~ Applications for use of pyrotechnics before a proximate audience displays shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures, and requirements for standby personnel and equipment when provision of such personnel or equipment is required by the fire code official.

3308.3 Approved fireworks displays. Approved fireworks displays shall include only the approved ~~Division fireworks 1.3G, Division fireworks 1.4G, and Division fireworks 1.4S,~~ and pyrotechnic articles, 1.4G fireworks, which shall be handled by an approved competent operator, ~~and~~ The approved fireworks shall be arranged, located, discharged and fire in a manner that will not pose a hazard to property or endanger any person.

3308.4 Clearance. Spectators, spectator parking areas, and dwellings, buildings or structures shall not be located within the display site.

Exceptions:

1. This provision shall not apply to pyrotechnic special effects and fireworks displays using Division 1.4G materials before a proximate audience in accordance with NFPA 1126.
2. This provision shall not apply to unoccupied dwellings, buildings and structures with the approval of the building owner and the fire code official.

3308.5.3 Inspection. Shells shall be inspected by the operator or assistants after delivery to the display site. Shells having tears, leaks, broken fuses or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the fireworks display, damaged, deteriorated or dud shells shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 3304.10.

Exception: Minor repairs to fuses shall be allowed. For electrically ignited displays, attachment of electric matches and similar tasks shall be allowed.

3308.5.4 Sorting and separation. After delivery to the display site and prior to the fireworks display, all shells shall be separated according to size and their designation as salutes.

Exception: For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size or their designation as salutes.

3308.5.5 Ready boxes. Display fireworks, (~~Division 1.3G~~), that will be temporarily stored at the site during the fireworks display shall be stored in ready boxes located upwind and at least 25 feet (7620 mm) from the mortar placement and separated according to size and their designation as salutes.

Exception: For electrically fired fireworks displays, or fireworks displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size, their designation as salutes, or for the use of ready boxes.

3308.8 Fireworks display supervision. Whenever in the opinion of the fire code official or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.

3308.9 Post-fireworks display inspection. After the fireworks display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light. A report identifying any shells that fail to ignite in, or discharge from, a mortar or fail to function over the fallout area or otherwise malfunction shall be filed with the fire code official.

2. Add new definitions to Section 3302.1 to read as follows:

PYROTECHNICS. Controlled exothermic chemical reactions timed to create the effects of heat, hot gas, sound, dispersion of aerosols, emission of visible light, or a combination of such effects to achieve the maximum effect from the least volume of pyrotechnic composition.

PYROTECHNIC ARTICLE. A pyrotechnic device for use in the entertainment industry, which is not classified as fireworks.

Reason: This is a clean up code change that basically makes editorial corrections throughout this section so the section internally correlates and uses appropriate terms including defined terms such as "fireworks display". This will also make this section more consistent with NFPA 1123, 1124, and 1126. In fact, the proposed two new definitions for "Pyrotechnics" and "Pyrotechnic Article" are consistent with those in NFPA 1124 without, hopefully, invoking any copyright infringement issues. It should be noted that only those sections and subsections where revisions are proposed have been shown in this code change proposal. Therefore, any sections or subsections which have not been incorporated into this code change proposal are not intended to be revised.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides improved clarity and correlation of the code provisions applicable to fireworks displays, including the referenced NFPA standards.

Assembly Action:

None

Final Hearing Results

F180-06/07

AS

Code Change No: F181-06/07

Original Proposal

Section: 3308.11

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Delete without substitution:

~~**3308.11 Retail display and sale.** Fireworks displayed for retail sale shall not be made readily accessible to the public. A minimum of one pressurized-water portable fire extinguisher complying with Section 906 shall be located not more than 15 feet (4572 mm) and not less than 10 feet (3048 mm) from the hazard. "No Smoking" signs complying with Section 310 shall be conspicuously posted in areas where fireworks are stored or displayed for retail sale.~~

Reason: Section 3301.1.3 prohibits consumer fireworks unless specifically authorized by state or jurisdictional statute or ordinance as allowed in Exception 4 to Section 3301.1.3. Therefore, the statute or ordinance should include the provisions for the retail display of fireworks and the provisions for the structure that contains the retail operation.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal represents a consensus of industry and the fire service that the section is not needed.

Assembly Action:

None

Final Hearing Results

F181-06/07

AS

Code Change No: **F187-06/07**

Original Proposal

Sections: 3404.2.8.12, 3404.2.8.17

Proponent: Richard S. Kraus, PSC Petroleum Safety Consultants, representing Petroleum Safety Consultants/American Petroleum Institute

Revise as follows:

3404.2.8.12 Liquid removal. Means shall be provided to recover liquid from the vault. Where a pump is used to meet this requirement, the pump shall not be permanently installed in the vault. Electric-powered portable pumps shall be suitable for use in Class I, Division 1 or Zone 0 locations, as defined in the *International Code Council Electrical Code Administrative Provisions*.

3404.2.8.17 Classified area. The interior of a vault containing a tank that stores a Class I liquid shall be designated a Class I, Division 1 or Zone 0 location, as defined in the *International Code Council Electrical Code Administrative Provisions*.

Reason: API 500 and NFPA 30 now incorporate the Zone classifications into their requirements. Much new equipment is now "Zone" classifies. This proposal does not change any technical requirement now contained in the code but reflects new terminology.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal brings code terminology into correlation with industry standards.

Assembly Action:

None

Final Hearing Results

F187-06/07

AS

Code Change No: **F188-06/07**

Original Proposal

Section: 3402.9.1 (New)

Proponent: Michael G. Kraft, Division of State Fire Marshal, State of Ohio

Add new text as follows:

3404.2.9.1 Existing installations. Existing aboveground tank installations, even if previously approved, that are determined to constitute a hazard by the fire code official, shall not be continued in service. Unsafe tanks shall be removed where required by the fire code official and in accordance with Sections 3404.2.14 through 3404.2.14.2.

Reason: For AST's that constitute a hazard, such as an underground tank being used above ground, a clear-cut authorization to remove is needed. These situations are different from an abandoned out of service tank, yet require similar mitigation, such that the removal of such an unsafe tank needs to be in accordance with the safeguards otherwise required.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proponent requested disapproval to revise the proposal.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Michael G. Kraft, Ohio Division of State Fire Marshal, request Approval as Modified by this public comment.

Modify proposal as follows:

3404.2.9.1 Existing noncompliant installations. Existing aboveground tanks shall be maintained in accordance with the code requirements that were applicable at the time of installation. Aboveground tanks that were installed in violation of code requirements applicable at the time of installation shall be made code compliant or shall be removed in accordance with Section 3402.14, regardless of whether such tank has been previously inspected. See Section 106.4, installations, even if previously approved, that are determined to constitute a hazard by the fire code official, shall not be continued in service. Unsafe tanks shall be removed where required by the fire code official and in accordance with Sections 3404.2.14 through 3404.2.14.2.

Commenter's Reason: This public comment fixes flaws in the original proposal that caused the proponent to request disapproval at the Orlando hearing. The revisions provided in this comment give straightforward guidance on how fire officials should handle existing non-compliant aboveground tanks. The reference to Section 106.4 addresses the issue of previous approvals that were mistakenly given by an inspector when a violation may have gone unnoticed.

Final Hearing Results

F188-06/07

AMPC1

Code Change No: F190-06/07

Original Proposal

Section: 3405.5.1

Proponent: Patrick A. McLaughlin, McLaughlin & Associates, representing Consumer Specialty Products Association

Revise as follows:

3405.5.1 Corridor installations. Where wall-mounted dispensers containing alcohol-based hand rubs are installed in corridors, they shall be in accordance with all of the following:

1. Level 2 and Level 3 aerosols containers shall not be allowed in corridors.
2. The maximum capacity of each Class I or II liquids dispenser shall be 41 ounces and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (.51 kg).

3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L).
4. The minimum corridor width shall be 72 inches (1829 mm).
5. Projections into a corridor shall be in accordance with Section 1003.3.3.

Reason: The original proposal to allow limited quantities of Class I and II liquid alcohol rubs in corridors did not include aerosols because they were not addressed in the supporting documentation. This exclusion is appropriate for Level 2 and Level 3 aerosols but not Level 1. Level 1 aerosols are treated as ordinary combustibles by the Fire Code. The alcohol component is no different than that considered in the original approval. The concern of bursting is not relevant because the temperatures in the corridor that would result in a can burst would be so high that the corridor would already be untenable.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee did not feel that aerosols of any level should be installed in corridors without more history in the successful application of current Section 3405.5. Since the corridor is an egress element, a quantity limit for aerosols should be included since there is none in Chapter 28

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Patrick A. McLaughlin, McLaughlin & Associates, representing Consumer Specialty Products Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

3405.5.1 Corridor installations. Where wall-mounted dispensers containing alcohol-based hand rubs are installed in corridors, they shall be in accordance with all of the following:

1. Level 2 and Level 3 aerosols containers shall not be allowed in corridors.
2. The maximum capacity of each Class I or II liquids dispenser shall be 41 ounces and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (.51 kg).
3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L) of Class I or II liquids or 1135 ounces (32.2 kg) of Level 1 aerosols, or a combination of Class I or II liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gallons (37.85 L) or 1135 oz (32.2 kg).
4. The minimum corridor width shall be 72 inches (1829 mm).
5. Projections into a corridor shall be in accordance with Section 1003.3.3.

Commenter's Reason: The International Fire Code, 2006 Edition, was amended, as a result of the ICC Ad Hoc Committee on the Use of Alcohol Hand Disinfectants in Health Care Occupancies project, to allow limited quantities of Class I and II liquid alcohol hand sanitizers in corridors but did not include aerosol alcohol hand sanitizers because aerosols were not addressed in the supporting documentation (aerosol products make up approximately 33% of the use of alcohol based hand sanitizers). The aerosol industry was asked to conduct their own study and testing to show that aerosols could also be allowed in the same application. This was done and only Level 1 aerosols were proposed for inclusion in the code. The study is attached. Level 1 aerosols are treated as ordinary combustibles by the Fire Code. The alcohol content is equal to that currently permitted in Class I and II liquid or gel hand sanitizers. Testing of the aerosol configuration was done and the results showed that the hazard of level 1 aerosols was less than that of the allowed hand sanitizers and that the aerosol can would not release its contents before the temperatures in the corridor would be untenable.

The benefit of alcohol hand sanitizers as a means to minimize healthcare acquired infections was well documented in the Ad Hoc Committee work. "In response to this health care crisis, the CDC issued the Guidelines for Hand Hygiene in Health-Care Settings in October 2002. These guideline urge health care organizations to utilize alcohol hand rub solutions (found to be more effective than antimicrobial soap) to prevent the spread of dangerous germs via healthcare worker hands, leading to significant reduction in Healthcare Associated Infections and saving lives. Clinical studies have shown that the frequency of handwashing is affected by the accessibility of hand-hygiene facilities and that the placement of alcohol-based hand-rub solution dispensers in convenient locations is a key to success. By permitting the installation of hand-rub dispensers immediately outside the patient/residence bedroom or within suites of rooms the overall efficacy of staff use have been shown in case studies to increase by over 20%. This means that this code change has the potential to reduce the life loss related to these infections by some 18,000 per year."

At the Code Development Hearing in September 2006, comments regarding the fire history of all alcohol hand sanitizers were introduced as evidence that aerosols should not be allowed. Also, as stated in the reason for disapproval, the Committee felt that there needed to be more experience before aerosols were included. Aerosol alcohol hand sanitizers were first introduced into the hospital market in the early 1970s and

have been marketed widely in that market for over 30 years. We have reviewed the fire history of all alcohol hand sanitizers (gel and aerosol) and found that there have been only 3 incidents reported in the public domain in the last 7 years. These were all associated with alcohol based hand rubs in a gel formulation. In addition, the quality tracking system of one of the major manufacturers of alcohol based hand antiseptic products (estimated to provide 30 % of the product used in the US) recorded an additional 5 incidents. None of which involved aerosols and all were minor (confined to the product user, resulting in minor burns to the hands) with the cause of the fires being attributed either to electrostatic discharge, or improper use of the product (user lighting cigarette before hands were dry (3 cases), contact with electrical equipment or gas stove before hands were dry (2 cases)) Based on the limited number of incidents compared to the level of use, the safety profile of these aerosol products has been excellent. It is estimated that 95% or 4,465 out of 4,700 hospitals greater than 100 beds are now using alcohol based hand sanitizers. Aerosol alcohol hand rubs make up approximately 33% of the overall healthcare market, with over 3 million units of this product type used annually. The aerosol alcohol form of these products has shown no greater safety risk than gel based formulations. Furthermore, quoting from the Ad-Hoc Committee's reason statement; "Alcohol Hand Rub Solutions have been used, without incident of fire, for over 20 years in hospitals throughout Great Britain, Germany, Switzerland, Austria and Australia. In March 2003, the Infectious Disease Society of America (SHEA) conducted a study of 840 U.S. hospitals with over 95% indicating the ongoing use of alcohol hand rubs with dispensers in rooms and/or corridors ...None of the respondents reported having a fire attributed to (or involving) an alcohol-based rub dispenser had occurred in his or her facility." (from Infection Control and Hospital Epidemiology, August 2003, pp. 618-619.) Testing and experience has shown that all alcohol based hand sanitizers, including aerosol alcohol hand sanitizers can safely be used in hospital corridors.

Lastly, the Code Development Committee requested that there be a maximum quantity limit and that has been provided in this public comment. It is proposed that the limit be the same as is presently allowed for Class I and II liquids.

Final Hearing Results

F190-06/07

AMPC1

Code Change No: F191-06/07

Original Proposal

Sections: 3501.1, 3502.1, 3506 (New), 3201.1, 3204.3.1.1, 2209.3.2.5

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

1. Revise as follows:

CHAPTER 35 FLAMMABLE GASES AND FLAMMABLE CRYOGENIC FLUIDS

SECTION 3501 GENERAL

3501.1 Scope. The storage and use of flammable gases shall be in accordance with this chapter. Compressed gases shall also comply with Chapter 30 and cryogenic fluids shall also comply with Chapter 32. Bulk hydrogen compressed gas systems ~~Gaseous~~ and bulk liquefied hydrogen gas systems shall also comply with NFPA 55.

Exceptions:

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied petroleum gases and natural gases regulated by Chapter 38.
3. Fuel-gas systems and appliances regulated under the *International Fuel Gas Code*.
4. Hydrogen motor fuel-dispensing stations and repair garages and above ground hydrogen storage systems designed and constructed in accordance with Chapter 22.
5. Pyrophoric gases in accordance with Chapter 41.

3502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

Bulk Hydrogen Compressed Gas System. An assembly of equipment, consisting of but not limited to, storage containers, pressure regulators, pressure relief devices, vaporizers, manifolds, and piping, with a storage capacity of more than 400 ft³ (scf) (11 m³) of compressed hydrogen gas including unconnected reserves integral to the system. The bulk system terminates at the point where the gas supply, at service pressure, first enters the supply line. The containers are either stationary or portable, and the gas is stored as a compressed gas.

Bulk Liquefied Hydrogen Gas System. An assembly of equipment, consisting of but not limited to, storage containers, pressure regulators, pressure relief devices, vaporizers, manifolds, and piping, with a storage capacity of more than 39.7 gal (150 L) of liquefied hydrogen including unconnected reserves integral to the system. The bulk system terminates at the point where the gas supply, at service pressure, first enters the supply line. The containers are either stationary or portable, and the gas is stored as a cryogenic fluid.

2. Add a new Section 3506 by relocating Section 3204.4 to Section 3506.4 without changes and adding new Sections 3506.1, 3506.2 and 3506.3:

SECTION 3506
FLAMMABLE CRYOGENIC FLUIDS

3506.1 General. The storage and use of flammable cryogenic fluids shall be in accordance with Section 3506.2 through 3506.4.8.3 and Chapter 32.

3506.2 Limitations. Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Ordinance for Adoption of the *International Fire Code* on page v).

3506.3 Aboveground tanks for liquid hydrogen. Aboveground tanks for the storage of liquid hydrogen shall be in accordance with Section 3506.3.

3506.3.1 Construction of the inner vessel. The inner vessel of storage tanks in liquid hydrogen service shall be designed and constructed in accordance with Section VIII, Division 1 of the ASME *Boiler and Pressure Vessel Code* and shall be vacuum jacketed in accordance with Section 3506.3.2.

3506.3.2 Construction of the vacuum jacket (outer vessel). The vacuum jacket used as an outer vessel for storage tanks in liquid hydrogen service shall be of welded steel construction designed to withstand the maximum internal and external pressure to which it will be subjected under operating conditions to include conditions of emergency pressure relief of the annular space between the inner and outer vessel. The jacket shall be designed to withstand a minimum collapsing pressure differential of 30 psi (207 kPa).

3506.3.2.1 Vacuum level monitoring. A connection shall be provided on the exterior of the vacuum jacket to allow measurement of the pressure within the annular space between the inner and outer vessel. The connection shall be fitted with a bellows-sealed or diaphragm type valve equipped with a vacuum gauge tube that is shielded to protect against damage from impact.

3204.4 3506.4 Underground tanks for liquid hydrogen. Underground tanks for the storage of liquid hydrogen shall be in accordance with Sections ~~3204.4.1~~ 3506.4.1 through ~~3204.5.3~~ 3506.4.8.3.

3204.4.1 3506.4.1 Construction. Storage tanks for liquid hydrogen shall be designed and constructed in accordance with ASME *Boiler and Pressure Vessel Code* (Section VIII, Division 1) and shall be vacuum jacketed in accordance with Section ~~3204.5~~ 3506.4.8.

3204.4.2 3506.4.2 Location. Storage tanks shall be located outside in accordance with the following:

1. Tanks and associated equipment shall be located with respect to foundations and supports of other structures such that the loads carried by the latter cannot be transmitted to the tank.
2. The distance from any part of the tank to the nearest wall of a basement, pit, cellar or lot line shall not be less than 3 feet (914 mm).
3. A minimum distance of 1 foot (1525 mm), shell to shell, shall be maintained between underground tanks.

3204.4.3 3506.4.3 Depth, cover and fill. The tank shall be buried such that the top of the vacuum jacket is covered with a minimum of 1 foot (305 mm) of earth and with concrete a minimum of 4 inches (102 mm) thick placed over the earthen cover. The concrete shall extend a minimum of 1 foot (305 mm) horizontally beyond the footprint of the tank in all directions. Underground tanks shall be set on firm foundations constructed in accordance with the *International Building Code* and surrounded with at least 6 inches (152 mm) of noncorrosive inert material, such as sand.

Exception: The vertical extension of the vacuum jacket as required for service connections.

~~3204.4.4~~ **3506.4.4 Anchorage and security.** Tanks and systems shall be secured against accidental dislodgement in accordance with this chapter.

~~3204.4.5~~ **3506.4.5 Venting of underground tanks.** Vent pipes for underground storage tanks shall be in accordance with Sections 2209.5.4 and 3203.3.

~~3204.4.6~~ **3506.4.6 Underground liquid hydrogen piping.** Underground liquid hydrogen piping shall be vacuum jacketed or protected by approved means and designed in accordance with this Chapter 32.

~~3204.4.7~~ **3506.4.7 Overfill protection and prevention systems.** An approved means or method shall be provided to prevent the overfill of all storage tanks.

~~3204.5~~ **3506.4.8 Vacuum jacket construction.** The vacuum jacket shall be designed and constructed in accordance with Section VIII of ASME *Boiler and Pressure Vessel Code* and shall be designed to withstand the anticipated loading, including loading from vehicular traffic, where applicable. Portions of the vacuum jacket installed below grade shall be designed to withstand anticipated soil, seismic and hydrostatic loading.

~~3204.5.1~~ **3506.4.8.1 Material.** The vacuum jacket shall be constructed of stainless steel or other approved corrosion-resistant material.

~~3204.5.2~~ **3506.4.8.2 Corrosion protection.** The vacuum jacket shall be protected by approved or listed corrosion-resistant materials or an engineered cathodic protection system. Where cathodic protection is utilized, an approved maintenance schedule shall be established. Exposed components shall be inspected at least twice a year. Maintenance and inspection events shall be recorded and those records shall be maintained on the premises for a minimum of three years and made available to the fire code official upon request.

~~3204.5.3~~ **3506.4.8.3 Vacuum level monitoring.** An approved method shall be provided to indicate loss of vacuum within the vacuum jacket(s).

3. Revise as follows:

3201.1 Scope. Storage, use and handling of cryogenic fluids shall comply with this chapter. Cryogenic fluids classified as hazardous materials shall also comply with Chapter 27 for general requirements. Partially full containers containing residual cryogenic fluids shall be considered as full for the purposes of the controls required.

Exceptions:

1. Fluids used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied natural gas (LNG), which shall comply with NFPA 59A.

Oxidizing cryogenic fluids, including oxygen, shall comply with NFPA 55.

Flammable cryogenic fluids, including hydrogen, methane and carbon monoxide, shall comply with NFPA 55 and Chapters 22 and 35 as applicable. Inert cryogenic fluids, including argon, helium and nitrogen, shall comply with CGA P-18.

3204.3.1.1 Location. Stationary containers shall be located in accordance with Section 3203.6. Containers of cryogenic fluids shall not be located within diked areas containing other hazardous materials.

~~Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Ordinance for Adoption of the *International Fire Code* on page v).~~

(Note: Deleted text here becomes new Section 3506.2)

4. Revise as follows:

2209.3.2.5 Liquefied hydrogen storage. Storage of liquefied hydrogen shall be in accordance with Chapter 32 and 35.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: Part 1. NFPA 55 contains material specific provisions for “bulk” hydrogen systems. The term “bulk” has been added to direct the user to the applicable sections of the Standard. Two new definitions have been added to define “bulk liquefied” and “bulk compressed” gas systems where specific details surrounding such installations can be found.

Part 2. Chapter 32 was intended to be a generic chapter for cryogenic fluids. Material specific hazards were to be placed into the appropriate chapter based on the nature of the material. A code change was introduced into the last code cycle (F216-04/05 Fluer, representing CGA) to relocate the requirements for liquid hydrogen tanks to Chapter 35, however, the necessary correlating changes and references were overlooked and the code change was rejected at the request of the proponent.

The provisions for liquid hydrogen have been proposed to be relocated without change from Chapter 32 to Chapter 35 and placed into a new Section 3506. Section 3506 is the only section in the chapter intended to apply to cryogenic fluids, and hydrogen is the sole cryogenic fluid provided for at this time. The general provisions of Chapter 32 address general design and safeguards. Section 3501.1 has been modified to require that Chapter 32 requirements be applied in addition to the requirements of Section 3506 while recognizing that there are also specific requirements in Chapter 22 that are applicable to service stations. The provisions for underground tanks for liquid hydrogen are applicable to industrial installations. They are not unique to service stations. Therefore, Chapter 35 is the logical choice for locating these provisions given the hazard specific approach to hazardous materials used by the IFC.

Section 3204.3.1.1, paragraph two contains material specific requirements applicable to flammable cryogens that have been relocated to new Section 3506.2 as Chapter 35 applies to flammable gases and cryogens.

Section 3506.3 has been added as a new section to address the requirements for tank construction in a more specific manner than that described by Section 2703.2.1. The requirements for construction for aboveground tanks parallel those found for underground tanks with the exception that the vacuum jacket (outer tank) is not required to be constructed to meet requirements of the ASME Boiler and Pressure Vessel Code. The vacuum jacket is designed to provide an insulated layer around the inner vessel through the use of vacuum and an insulating layer. It is also designed to contain and relieve a release of hydrogen should a leak occur in the annular space. The jacket is designed to a safety factor of two. For underground tanks, the safety factor is increased due to potential loading by the use of ASME requirements where the safety factor of three and a half is used.

The design criteria are found in newly published CGA Standard H-3-2006 Cryogenic Hydrogen Storage. The standard has not yet been submitted for approval into the ANSI process, however, it is available for use by those that seek to establish more detailed design requirements than would otherwise be available through the use of Section 2703.2.1. The minimum design requirements established by Section 3506.3 coupled with the general requirements of Chapter 32 applicable to all cryogens improve the code resulting in greater consistency and an increase in public safety.

Approval of this code change will maintain Chapter 32 as a generic chapter applicable to all cryogens while placing material specific requirements into the material specific chapters as desired.

Part 3. References are added to Chapter 22 and 35 as requirements for liquid hydrogen systems are also found in these chapters. Section 3204.3.1.1 has been moved to Section 3506.2 without change.

Part 4. Reference is made to Chapter 35 which contains requirements for underground tanks used for liquid hydrogen.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

3501.1 Scope. The storage and use of flammable gases shall be in accordance with this chapter. Compressed gases shall also comply with Chapter 30 and cryogenic fluids shall also comply with Chapter 32. Bulk hydrogen compressed gas systems and bulk liquefied hydrogen gas systems shall also comply with NFPA 55.

Exceptions:

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied petroleum gases and natural gases regulated by Chapter 38.
3. Fuel-gas systems and appliances regulated under the *International Fuel Gas Code*.
4. Hydrogen motor fuel-dispensing stations and repair garages and their associated above ground hydrogen storage systems designed and constructed in accordance with Chapter 22.
5. Pyrophoric gases in accordance with Chapter 41.

(Portions of proposal not shown remain unchanged)

Committee Reason: Based on the proponent’s reason statement. The proposal will continue Chapter 32 as the general cryogens chapter while Chapter 35 will continue to develop as the material-specific chapter for flammable gases and cryogenic fluids. Additional correlation of in-code references is also provided along with clearer direction on the application of the referenced standard, NFPA 55, to bulk systems. The modification clarifies that the exception is only applicable to tanks associated with fuel dispensing.

Assembly Action:

None

Final Hearing Results

F191-06/07

AM

Code Change No: **F194-06/07**

Original Proposal

Sections: 3506 (New), 3502.1 (New)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

1. Add new section as follows:

SECTION 3506 METAL HYDRIDE STORAGE SYSTEMS

3506.1 General requirements. The storage and use of metal hydride storage systems shall be in accordance with Sections 3501, 3503, 3504, 3505 and 3506. Those portions of the system that are used as a means to store or supply hydrogen shall also comply with Chapters 27 and 30 as applicable.

3506.1.1 Classification. The hazard classification of the metal hydride storage system, as required by Section 2701.2.2, shall be based on the hydrogen stored without regard to the metal hydride content.

3506.1.2 Listed or approved systems. Metal hydride storage systems shall be listed or approved for the application and designed in a manner that prevents the addition or removal of the metal hydride by other than the original equipment manufacturer.

3506.1.3 Containers, design and construction. Compressed gas containers, cylinders and tanks shall be designed and constructed in accordance with Section 3003.2.

3506.1.4 Service life and inspection of containers. Metal hydride storage system cylinders, containers or tanks shall be inspected, tested and requalified for service at not less than five year intervals.

3506.1.5 Marking and labeling. Marking and labeling of cylinders, containers, tanks and systems shall be in accordance with Section 3003.4 and the following:

3506.1.5.1 System marking. Metal hydride storage systems shall be marked with the following.

1. Manufacturer's name.
2. Service life indicating the last date the system can be used.
3. A unique code or serial number specific to the unit.
4. System name or product code that identifies the system by the type of chemistry used in the system.
5. Emergency contact name, telephone number or other contact information, and
6. Limitations on refilling of containers to include rated charging pressure and capacity.

3506.1.5.2 Valve marking. Metal hydride storage system valves shall be marked with the following:

1. Manufacturer's name.
2. Service life indicating the last date the valve can be used, and
3. Metal hydride service in which the valve can be used, or a product code that is traceable to this information.

3506.1.5.3 Pressure relief device marking. Metal hydride storage system pressure relief devices shall be marked with the following:

1. Manufacturer's name.
2. Metal hydride service in which the device can be used, or a product code that is traceable to this information, and
3. Activation parameters to include temperature, pressure or both.

3506.1.5.3.1 Pressure relief devices integral to container valves. The required markings for pressure relief devices that are integral components of valves used on cylinders, containers and tanks shall be allowed to be placed on the valve.

3506.1.5.4 Pressure vessel markings. Cylinders, containers and tanks used in metal hydride storage systems shall be marked with the following:

1. Manufacturer's name.
2. Design specification to which the vessel was manufactured.
3. Authorized body approving the design and initial inspection and test of the vessel.
4. Manufacturer's original test date.
5. Unique serial number for the vessel.
6. Service life identifying the last date the vessel can be used, and
7. System name or product code that identifies the system by the type of chemistry used in the system.

3506.1.6 Temperature extremes. Metal hydride storage systems, whether full or partially full, shall not be exposed to artificially created high temperatures exceeding 125°F (52°C) or subambient (low) temperatures unless designed for use under the exposed conditions.

3506.1.7 Falling objects. Metal hydride storage systems shall not be placed in areas where they are capable of being damaged by falling objects.

3506.1.8 Piping systems. Piping, including tubing, valves, fittings and pressure regulators, serving metal hydride storage systems shall be maintained gas tight to prevent leakage.

3506.1.8.1 Leaking systems. Leaking systems shall be removed from service.

3506.1.9 Refilling of containers. The refilling of listed or approved metal hydride storage systems shall be in accordance with the listing requirements and manufacturers' instructions.

3506.1.9.1 Industrial trucks. The refilling of metal hydride storage systems serving powered industrial trucks shall be in accordance with Section 309.

3506.1.9.2 Hydrogen purity. The purity of hydrogen used for the purpose of refilling containers shall be in accordance with the listing and the manufacturer's instructions.

3506.1.10 Electrical. Electrical components for metal hydride storage systems shall be designed, constructed, and installed in accordance with the *International Code Council Electrical Code Administrative Provisions*.

3506.2 Portable containers or systems. Portable containers or systems shall comply with Section 3506.2.1 through 3506.2.2.

3506.2.1 Securing containers. Containers, cylinders and tanks shall be secured in accordance with Section 3003.5.3.

3506.2.1.1 Use on mobile equipment. Where a metal hydride storage system is used on mobile equipment the equipment shall be designed to restrain containers, cylinders or tanks from dislodgement, slipping or rotating when the equipment is in motion.

3506.2.1.2 Motorized equipment. Metal hydride storage systems used on motorized equipment shall be installed in a manner that protects valves, pressure regulators, fittings and controls against accidental impact.

3506.2.1.2.1 Protection from damage. Metal hydride storage systems including cylinders, containers, tanks and fittings shall not extend beyond the platform of the mobile equipment.

3506.2.2 Valves. Valves on containers, cylinders and tanks shall remain closed except when containers are connected to closed systems and ready for use.

2. Add new definitions as follows:

3502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

METAL HYDRIDE STORAGE SYSTEM. A closed system consisting of a group of components assembled as a package to contain metal-hydrogen compounds for which there exists an equilibrium condition where the hydrogen-absorbing metal alloy(s), hydrogen gas, and the metal-hydrogen compound(s) co-exist and where only hydrogen gas is released from the system in normal use.

METAL HYDRIDE. A generic name for compounds composed of metallic element(s) and hydrogen.

Reason: A definition and a statement for classification of metal hydride storage systems were added to the 2004 Supplement with the approval of F181-03/04 (ICC Ad Hoc Committee for Hydrogen Gas and Texaco/Ovonic Hydrogen). The definition and classification statement were removed by actions taken under code change F236-04/05 (G. Victor, City of Glendale, AZ). Public comments issued by proponents Boucard (Energy Conversion Devices, Inc.) and Shine, (Jadco Power systems) to overturn the committee action under F236-04/05 were rejected by the membership during the final code action hearings.

The text as it appeared in the 2004 supplement that was later removed was as follows:

METAL HYDRIDE STORAGE SYSTEM. A system for the storage of hydrogen gas absorbed in solid material.

3503.1.6 Hydrogen gas absorbed in solids. The hazard classification of the metal hydride storage system, as required by Section 2701.2.2, shall be based on the hydrogen stored without regard to the metal hydride content.

3503.1.6.1 Listed system. Metal hydride storage systems shall be listed for the application and designed in a manner that prevents the removal of the metal hydride.

The committee approved the deletion of the above text based on the fact that it leads the code official to believe that there are listed systems available when, in fact there were none. In addition, standards for testing and listing of the systems were not yet final. In support of the action to strike the language from the code the committee suggested, in pertinent part, that until such time as there were listing standards..."it would be better if the code included, in codified form, the safeguards that are currently used by the industry for the systems that are currently in use in the field."

The code change now proposed by the Compressed Gas Association (CGA) is an effort to bring the parties to consensus in a manner that recognizes the presence of these unique systems, and to place fundamental requirements in the code to address their use.

The technical argument presented by the ICC Hydrogen Ad Hoc Committee and Texaco/Ovonic Hydrogen under F181-03/04 regarding the classification of containers used to absorb hydrogen was valid. Specifically, the primary hazard of the container is its hydrogen content, and not the metal hydride solid which is used as an absorbent. The weakness in the approach may have been the lack of clear direction regarding requirements for the construction of the vessels used to contain the metal hydride and the absorbed hydrogen gas as well as confusion as to the intent of the proponents with respect to how to apply the code to these containers.

In the last code cycle a new section was added to Chapter 30 that specifies the design and construction of cylinders, containers and tanks used to hold compressed gases (Section 3003.2). The code change proposal requires that containers be designed to meet requirements of DOTn 49 CFR or ASME Boiler and Pressure Vessel Code, Section VIII. The use of these design requirements will ensure that the containers used to contain the metal hydride are of robust construction. Containers meeting the reference standards are required to meet specified tests for impact, fire, drop and other physical hazards to ensure that they do not rupture due to events where they are exposed to common physical abuse.

Placement into Chapter 35 places these materials under the requirements of Chapter 30 (Compressed Gases). See 3501.1. In doing so, all of the requirements attendant to compressed gas containers, cylinders and tanks apply thereby alleviating some of the expressed concerns regarding the nature of the containers to be used as well as specialized controls such as pressure relief systems, valves and fittings. In addition, under the requirements of proposed Section 3506.1 the systems are required to comply with the requirements of Chapter 27. The oddity is that based on the classification as a flammable gas only and the provisions other physical or health hazard categories including that of pyrophoric, water reactive, or other hazards will not apply.

The closest analogy that can be made with respect to the code approach in treating the hazard is that of acetylene, a compressed gas that is dissolved in acetone or dimethylformamide. These solvents are Class IB flammable liquid and Class II combustible liquids respectively. However, in practice it is the flammable gas hazard that is regulated, and the solvent into which the gas is absorbed has not been independently assessed. The established reason for doing this is that the control strategy for the compressed gas hazard is suitable for that of the solvent hazard.

The control strategy for metal hydride systems, therefore, is heavily dependent on the control strategy for all compressed gases. However, a number of the control procedures have been drawn into Chapter 35 in order to focus on fundamental controls that might otherwise be missed by code users. In addition provisions have been added to address refilling of containers including containers that may be used on powered industrial trucks (now included in the code in Section 309).

The early use of these systems has been as a means to supply power attendant to portable equipment. Specific safeguards have been included to address the security of containers in mobile as well as motorized equipment. Fundamental controls for motorized equipment have been drawn in part from NFPA 505 Powered Industrial Trucks (Referenced in Chapter 45) as used for LPG.

There may be other controls that may be developed over time for systems of this nature, however, a starting point is needed to recognize this new technology and a fundamental set of controls can accommodate the need.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will add needed code provisions on metal hydride storage systems for the absorption and storage of hydrogen.

Assembly Action:

None

Final Hearing Results

F194-06/07

AS

Code Change No: F198-06/07

Original Proposal

Section: 3704.2.2.7

Proponent: Jennifer Bower, Orange County, CA, Fire Authority, representing North/South Fire Prevention Officers

Revise as follows:

3704.2.2.7 Treatment systems. The exhaust ventilation from gas cabinets, exhausted enclosures and gas rooms, and local exhaust systems required in Sections 3704.2.2.4 and 3704.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 3704.2.2.7.1 through 3704.2.2.7.5 and Section 510 of the *International Mechanical Code*.

Exceptions: ~~4.~~ Highly toxic and toxic gases—storage. A treatment system is not required for cylinders, containers and tanks in storage when all of the following controls are provided:

- ~~4.1.~~ Valve outlets are equipped with gas-tight outlet plugs or caps.
- ~~4.2.~~ Handwheel-operated valves have handles secured to prevent movement.
- ~~4.3.~~ Approved containment vessels or containment systems are provided in accordance with Section 3704.2.2.3 .

~~2.~~ Toxic gases—use. Treatment systems are not required for toxic gases supplied by cylinders or portable tanks not exceeding 660 gallons (2 498 L) liquid capacity when the following are provided:

- ~~2.1.~~ A gas detection system with a sensing interval not exceeding 5 minutes.
- ~~2.2.~~ An approved automatic closing fail-safe valve located immediately adjacent to cylinder valves. The fail-safe valve shall close when gas is detected at the permissible exposure limit (PEL) by a gas detection system monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room. The gas detection shall comply with Section 3704.2.2.10 .

Reason: We proposed that the California State Fire Marshal in the adoption of the 2006 California Fire Code, delete Exception 2 of IFC Section 3704.2.2.7 Treatment Systems. It is our feeling that although Exception 1 utilizes new and available technologies, Exception 2 substantially reduces Community and Emergency Responder Safety. Elimination of abatement or containment systems for Toxic Gases reduces the current standard of care and exposes the local community to extraordinary Health Hazards. Although the utilization of a modern shut off valve is a positive step, there are toxic leak paths that exist around the valve and through other appurtenances.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Replace proposal with the following:

3704.2.2.7 Treatment systems. The exhaust ventilation from gas cabinets, exhausted enclosures and gas rooms, and local exhaust systems required in Sections 3704.2.2.4 and 3704.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 3704.2.2.7.1 through 3704.2.2.7.5 and Section 510 of the *International Mechanical Code*.

Exceptions:

- 1. Highly toxic and toxic gases—storage. A treatment system is not required for cylinders, containers and tanks in storage when all of the following controls are provided:
 - 1.1. Valve outlets are equipped with gas-tight outlet plugs or caps.
 - 1.2. Handwheel-operated valves have handles secured to prevent movement.
 - 1.3. Approved containment vessels or containment systems are provided in accordance with Section 3704.2.2.3 .
- 2. Toxic gases—use. Treatment systems are not required for toxic gases supplied by cylinders or portable tanks not exceeding 1,700 pounds (772 kg) water 660 gallons (2498 L) liquid capacity when the following are provided:

- 2.1. A listed or approved gas detection system with a sensing interval not exceeding 5 minutes.
- 2.2. A listed or approved automatic-closing fail-safe valve located immediately adjacent to cylinder valves. The fail-safe valve shall close when gas is detected at the permissible exposure limit (PEL) by a gas detection system monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room. The gas detection shall comply with Section 3704.2.2.10 .

Committee Reason: Based on the proponent's reason statement. The proposal as modified provides more enforcement flexibility by allowing either listed or approved devices. The modification also corrects a typographical error in the proposal, i.e. the difference in units of measure in Exception 2.

Assembly Action:

None

Final Hearing Results

F198-06/07

AM

Code Change No: F200-06/07

Original Proposal

Section: 3705.1

Proponent: Kent Miller, representing City of Stockton, CA Fire Department; Paul Inouye, representing City of Milpitas, CA Fire Department; Ron Keefer, City of Menlo Park, CA Fire Department

Revise as follows:

3705.1 Scope. Ozone gas generators having a maximum ozone-generating capacity of 0.5 pound (0.23 kg) or more over a 24-hour period shall be in accordance with this section.

Exceptions: 4. Ozone-generating equipment used in Group R-3 occupancies.

~~2. Ozone-generating equipment used in Group H-5 occupancies.~~

Reason: This proposal will delete exception #2 that exempts H-5 Occupancies from the safeguards required by this Section for Ozone Gas generating equipment. Since the semiconductor industry uses Ozone Gas generators, which is a Fire Code defined Highly Toxic Gas, they should be included in the safeguards provided by this Section of the Code. It simply retains the Standard of Care that now exists. The specific requirements for ozone will require additional safeguards that would not otherwise be in H-5 occupancy.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal would nullify previously added safeguards. The proponent requested disapproval in order to resolve that issue and others brought up to him by the semiconductor industry.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Ron Keefer, Menlo Park Fire Protection District, representing California Fire Chiefs Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

3705.1 Scope. Ozone gas generators having a maximum ozone-generating capacity of 0.5 pound (0.23 kg) or more over a 24-hour period shall be in accordance with this section.

Exceptions:

1. Ozone-generating equipment used in Group R-3 occupancies.
2. Ozone generating equipment when used in Group H-5 occupancies when in compliance with Chapters 18 and 27 and the other provisions in Chapter 37 for Highly Toxic Gases.

Commenter's Reason: This proposal ensures that the necessary safety provisions for the highly toxic ozone gas produced in an ozone generator will be maintained when used in a semiconductor facility.

Final Hearing Results

F200-06/07

AMPC1

Code Change No: F201-06/07

Original Proposal

Section: 3802.1 (New)

Proponent: Jakki MacLean, Yakima County Washington Fire Protection Bureau, representing Washington State Association of Fire Marshals

1. Add new definition as follows:

3802.1 Definition. The following word and term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

LP-GAS CONTAINER. Any vessel, including cylinders, tanks, portable tanks, and cargo tanks, used for transporting or storing LP-gases.

2. Wherever the term “Container” appears in Chapter 38, revise it to “LP-gas container”

Reason: The proposed definition will solve correlation problems between NFPA 58 and the IFC as they exist with the definition of “container,” and the different forms that it can take. Placing the definition in Section 3802 will apply specifically to LP-gases and supersede the general definition used in Chapter 27.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal adds a needed definition that will draw the distinction between LP-gas containers and the more general term “container” used elsewhere in the code.

Assembly Action:

None

Final Hearing Results

F201-06/07

AS

Code Change No: F203-06/07**Original Proposal**

Sections: 4001.1, 4003.1, 4003.1.1, 4003.2, 4004.1, 4004.2 through 4004.2.4, 3201.1, 4006 (New)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Revise as follows:

4001.1 Scope. The storage and use of oxidizing materials ~~oxidizers~~ shall be in accordance with this chapter and Chapter 27. Compressed gases shall also comply with Chapter 30.

4003.1 Quantities not exceeding the maximum allowable quantity per control area. The storage and use of oxidizing materials ~~oxidizers~~ in amounts not exceeding the maximum allowable quantity per control area indicated in Section 2703.1 shall be in accordance with Sections 2701, 2703, 4001 and 4003. Oxidizing gases shall also comply with Chapter 30.

4003.1.1 Special limitations for indoor storage and use by occupancy. The indoor storage and use of oxidizing materials ~~oxidizers~~ shall be in accordance with Sections 4003.1.1.1 through 4003.1.1.3.

4003.2 Quantities exceeding the maximum allowable quantity per control area. The storage and use of oxidizing materials ~~oxidizers~~ in amounts exceeding the maximum allowable quantity per control area indicated in Section 2703.1 shall be in accordance with Chapter 27 and this chapter.

4004.1 Indoor storage. Indoor storage of oxidizing materials ~~oxidizers~~ in amounts exceeding the maximum allowable quantity per control area indicated in Table 2703.1.1(1) shall be in accordance with Sections 2701, 2703, 2704 and this chapter.

4004.2 Outdoor storage. Outdoor storage of oxidizing materials ~~oxidizers~~ in amounts exceeding the maximum allowable quantities per control area set forth in Table 2703.1.1(3) shall be in accordance with Sections 2701, 2703, 2704 and this chapter. Oxidizing gases shall also comply with Chapter 30.

4004.2.1 Distance from storage to exposures for liquid and solid oxidizers. Outdoor storage areas for liquid and solid oxidizers shall be located in accordance with Table 4004.1.2.

4004.2.2 Distance from storage to exposures for oxidizing oxidizer gases. Outdoor storage areas for oxidizing oxidizer gases shall be located in accordance with Table 4004.2.2.

4004.2.2.1 Oxidizing cryogenic fluids. Outdoor storage areas for oxidizing cryogenic fluids shall be located in accordance with Chapter 32.

4004.2.3 Storage configuration for liquid and solid oxidizers. Storage configuration for liquid and solid oxidizers shall be in accordance with Tables 4004.1.7(1) through 4004.1.7(4).

4004.2.4 Storage configuration for oxidizing oxidizer gases. Storage configuration for oxidizing oxidizer gases shall be in accordance with Table 4004.2.2.

TABLE 4004.2.2
OXIDIZING OXIDIZER GASES— DISTANCE FROM STORAGE TO EXPOSURES^a

QUANTITY OF GAS STORED (cubic feet at NTP)	DISTANCE TO A BUILDING NOT ASSOCIATED WITH THE MANUFACTURE OR DISTRIBUTION OF OXIDIZING OXIDIZER GASES OR PUBLIC WAY OR LOT LINE THAT CAN BE BUILT UPON (feet)	DISTANCE BETWEEN STORAGE AREAS (feet)
0-50,000	5	5
50,001-100,000	10	10
100,001 or greater	15	10

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832 m³.

a. The minimum required distances shall not apply when fire barriers without openings or penetrations having a minimum fire-resistance rating of 2 hours interrupt the line of sight between the storage and the exposure. The configuration of the fire barrier shall be designed to allow natural ventilation to prevent the accumulation of hazardous gas concentrations.

3201.1 Scope. Storage, use and handling of cryogenic fluids shall comply with this chapter. Cryogenic fluids classified as hazardous materials shall also comply with Chapter 27 for general requirements. Partially full containers containing residual cryogenic fluids shall be considered as full for the purposes of the controls required.

Exceptions:

1. Fluids used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied natural gas (LNG), which shall comply with NFPA 59A.

Oxidizing cryogenic fluids, including oxygen, shall comply with NFPA 55 and Chapter 40 as applicable. Flammable cryogenic fluids, including hydrogen, methane and carbon monoxide, shall comply with NFPA 55. Inert cryogenic fluids, including argon, helium and nitrogen, shall comply with CGA P-18.

CHAPTER 40
OXIDIZERS, OXIDIZING GASES AND OXIDIZING CRYOGENIC FLUIDS

2. Add new text as follows:

SECTION 4006
OXIDIZING CRYOGENIC FLUIDS

4006.1 General. The storage and use of oxidizing cryogenic fluids shall be in accordance with Section 4006 and Chapter 32.

Reason: The term “oxidizer” is used inconsistently throughout the code. “Oxidizing materials” is not a defined term, rather it includes solids, liquids and gases. An example can be seen in Table 105.6.21. Revisions have been made to resolve the use of the term in Sections 4001.1, 4003.1, 4003.1.1, 4003.2 and 4004.1 where appropriate as a means for consistency. The creation of a definition was considered, but felt not to be necessary as when specific requirements are to be applied to solids and liquids the term has conventionally been that of oxidizer, e.g., oxidizer solids and liquids or oxidizer Class 3, etc.

The term “oxidizing gas” as defined in Section 4002.1 is used to differentiate and establish requirements for gases separate from those used for solids and liquids. Clarification is needed to bring consistency in use of the term to Section 4004.2. The change in terminology is not intended to alter requirements and is offered as clarification to avoid misapplication of the code.

Chapter 32 is a generic chapter for all cryogenic fluids. The material specific chapters contain material specific provisions based on hazard class. The term oxidizer is generally used to describe solid and liquid materials; however, Chapter 40 contains provisions for oxidizing gases as well. Changing the title to reflect the Chapter content is user friendly. The requirements for oxidizing fluids found in the present code are limited to the generic requirements of Chapter 32, however, the establishment of a section for oxidizing cryogenic fluids is appropriate and parallel to a proposal that proposes similar organization for flammable cryogenics to be placed into Chapter 35.

A code change to address the use of liquid oxygen (LOX), an oxidizing cryogenic fluid, for home health care has been introduced by other parties into the 06/07 code cycle. Establishing Section 4006 under the major heading of oxidizing cryogenic fluids provides a structure under which specific requirements may be developed.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

4001.1 Scope. The storage and use of oxidizing materials shall be in accordance with this chapter and Chapter 27. ~~Compressed~~ Oxidizing gases shall also comply with Chapter 30. Oxidizing cryogenic fluids shall also comply with Chapter 32.

**SECTION 4006
OXIDIZING CRYOGENIC FLUIDS**

~~**4006.1 General.** The storage and use of oxidizing cryogenic fluids shall be in accordance with Section 4006 and Chapter 32.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: Based on the proponent's reason statement. The proposal adds clarity to the section by making a distinction between different terms applicable to oxidizing materials. The modification simplifies the proposal by moving the required reference back to Chapter 32 to the beginning of the chapter and deleting an unneeded new section.

Assembly Action:**None**

Final Hearing Results

F203-06/07

AM

Code Change No: **F204-06/07**

Original Proposal

Section: 4002.1

Proponent: Larry Fluor, Fluor, Inc., representing Compressed Gas Association

Revise definition as follows:

4002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

OXIDIZING GAS. A gas that can support and accelerate combustion of other materials more than air does.

Reason: As currently written air itself would be regulated as an oxidizing gas subject to the requirements of Chapter 40 including the Maximum Allowable Quantity per Control Area Tables. Air or compressed air should not trigger the need to establish a Group H3 Occupancy. The intent of the code is to regulate as oxidizing gases those materials that are more vigorous oxidizers than normal air. The normal oxygen content of air at sea level is 20.95% oxygen.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal definition provides a point of reference for the property of oxidizing gas to support combustion and will resolve the need to separate compressed air from oxidizing gases.

Assembly Action:**None**

Final Hearing Results

F204-06/07

AS

Code Change No: **F205-06/07**

Original Proposal

Sections: 4006 (New), 4002.1, 3001.1

Proponent: John Anicello, Airgas, Inc.; Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

1. Add new text as follows:

SECTION 4006
LIQUID OXYGEN IN HOME HEALTH CARE

4006.1 General. The storage and use of liquid oxygen (LOX) in home health care shall comply with Sections 4006.2 through 4006.10.3.

4006.2 Information and instructions to be provided. The supplier of liquid oxygen shall provide the user with the following information in written form:

1. Manufacturer's instructions for operation of the containers used and labeling.
2. Locating containers away from ignition sources, exits, electrical hazards and high temperature devices.
3. Restraint of containers to prevent falling.
4. Requirements for transporting containers.
5. Safeguards to be followed when containers are refilled.

4006.3 Liquid oxygen home care containers. Liquid oxygen home care and ambulatory containers in Groups I-1, I-4, R-3 Residential Care/Assisted Living Facilities and R-4 occupancies shall be stored, used and filled in accordance with Sections 4006, 3203.1 and 3203.2.

4006.4 Manufacturer's instructions and labeling. Containers shall be stored, used and operated in accordance with the manufacturer's instructions and labeling.

4006.5 Locating containers. Containers shall not be located in areas:

1. Where they can be overturned due to operation of a door.
2. Where they are in the direct path of egress.
3. Subject to falling objects.
4. Where they may become part of an electrical circuit, or
5. Where open flames and high temperature devices can cause a hazard.

4006.6 No smoking. Smoking shall be prohibited in rooms or areas where liquid oxygen is in use.

4006.7 Signs. A sign stating "OXYGEN NO SMOKING" shall be posted in the room or area where the liquid oxygen home care container(s) is stored or used and liquid oxygen ambulatory containers are filled.

4006.8 Restraining containers. Containers shall be restrained while in storage or use to prevent falling caused by contact, vibration or seismic activity. Containers shall be restrained by one of the following methods:

1. Restraining containers to a fixed object with one or more restraints.
2. Restraining containers within a framework, stand or assembly designed to secure the container.
3. Restraining containers by locating a container against two points of contact like the walls of a corner of a room or a wall and a secure furnishing or object like a desk.

4006.9 Container movement. Containers shall be transported by use of a cart or hand truck designed for such use.

Exceptions:

1. Liquid oxygen home care containers equipped with a roller base.
2. Liquid oxygen ambulatory containers are allowed to be hand carried.

4006.10 Filling of containers. The filling of containers shall be in accordance with Sections 4006.10 through 4006.10.3.

4006.10.1 Filling of home care containers. Liquid oxygen home care containers shall be filled outdoors.

4006.10.1.1 Incompatible surfaces. A liquid oxygen compatible drip pan shall be provided under home care container fill connections during the filling process in order to protect against liquid oxygen spillage from coming into contact with combustible surfaces, including asphalt.

4006.10.2 Filling of ambulatory care containers. The filling of liquid oxygen ambulatory containers is allowed indoors where the supply container is designed to fill them and written instructions are provided by the container manufacturer.

4006.10.3 Open flames and high temperature devices. The use of open flames and high temperature devices shall be in accordance with Section 2703.7.2.

2. Add new definitions as follows:

4002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

LIQUID OXYGEN HOME CARE CONTAINER. A container used for liquid oxygen not exceeding 15.8 gallons (60 liters) specifically designed for use as a medical device as defined by 21 USC Chapter 9, the United States Food, Drug and Cosmetic Act that is intended to deliver gaseous oxygen for therapeutic use in a home environment.

LIQUID OXYGEN AMBULATORY CONTAINER. A container used for liquid oxygen not exceeding 0.396 gallons (1.5 liters) specifically designed for use as a medical device as defined by 21 USC Chapter 9, the United States Food, Drug and Cosmetic Act that is intended for portable therapeutic use and to be filled from its companion base unit (a liquid oxygen home care container).

OXIDIZING CRYOGENIC FLUID. An oxidizing gas in the cryogenic state.

3. Revise as follows:

3001.1 Scope. Storage, use and handling of compressed gases in compressed gas containers, cylinders, tanks and systems shall comply with this chapter, including those gases regulated elsewhere in this code. Partially full compressed gas containers, cylinders or tanks containing residual gases shall be considered as full for the purposes of the controls required.

Exceptions:

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Compressed natural gas (CNG) for use as a vehicular fuel shall comply with Chapter 22, NFPA 52 and the *International Fuel Gas Code*.

Cutting and welding gases shall also comply with Chapter 26.

Cryogenic fluids shall also comply with Chapter 32. Liquefied natural gas for use as a vehicular fuel shall also comply with NFPA 57 and NFPA 59A.

Compressed gases classified as hazardous materials shall also comply with Chapter 27 for general requirements and chapters addressing specific hazards, including Chapters 35 (Flammable Gases), 37 (Highly Toxic and Toxic Materials), 40 (Oxidizers) and 41 (Pyrophoric).

LP-gas shall also comply with Chapter 38 and the *International Fuel Gas Code*.

Reason:

1. Chapter 40: A typical liquid oxygen home care container holds up to 15.8 gallons of liquid oxygen (LOX). The ambulatory containers are typically limited to 1.5 gallons or less. These containers include in their design all appurtenances such as regulators, gauges, piping and controls and require no external piping other than the application of disposable breathing apparatus.

A code change (F215-04/05) was initially submitted by Mr. Hal Key, City of Mesa, AZ to address the subject. This code change was not approved. However, a substantial public comment was issued by Mr. John Anicello, Airgas, Inc. for consideration at the annual meeting. The public comment was disapproved at the request of the proponent to allow for further study and consideration. The code change has now been further revised based on input from the ICC/IAFC Western/Canadian Code Action Committee and discussion with other liquid oxygen suppliers.

This proposal is designed to establish controls for LOX into a section of Chapter 40 instead of Chapter 32, Cryogenic Fluids because Chapter 32 is a generic chapter that provides general provisions for all cryogenics and has only limited application to liquid oxygen in homecare. Liquid oxygen is regulated by Chapters 32 and 40. As a cryogen LOX is not regulated by Chapter 30. Part 1 of the proposal is designed to resolve what might be a conflict by referring the user to Chapter 32 when cryogenics are involved.

2. Chapter 40 definitions: Part 2 of the proposal provides the general provisions for storage and use of liquid oxygen home care and ambulatory containers as defined in two new definitions to be added to Chapter 40. A key aspect in the definitions are the containers are medical devices as classified by the Federal Food and Drug Administration and always intended for therapeutic use.

Use in all occupancies requires that the supplier furnish written information to the user under the requirements of Section 4006.1. Specific provisions applicable to I-1, I-4, R-3 Residential Care/Assisted Living facilities and R-4 occupancies are addressed in Section 4006.2 and the sections that follow. The requirements establish general safeguards including but not limited to locating containers, restraining containers, distance to exposures such as ignition sources, and high temperature devices, container movement and filling. The permit quantity of 10 gallons is unchanged.

The definitions and Part 4 of the proposal provide a reference to the US Code, Title 21 – Federal Food, Drug and Cosmetic Act that defines medical devices. LOX containers used as medical devices are unique in that they are intended for therapeutic use only, and not intended for use in industrial applications.

As the population ages the use of LOX is expected to increase. Approval of this code change will enhance public safety by establishing minimum requirements surrounding its use in the occupancies where the material is most frequently encountered. In addition it requires that the suppliers provide a reasonable level of information containing safeguards to be applied by the users. The code change fills a void in the code which has been characterized by a growing concern and “need to know” emanating from the code enforcement community.

3. 3001.1: Compressed gases in the cryogenic state are regulated under Chapter 32

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

SECTION 4006 LIQUID OXYGEN IN HOME HEALTH CARE

4006.1 General. The storage and use of liquid oxygen (LOX) in home health care shall comply with Sections 4006.2 through ~~4006.10.3~~ 4006.3.7, as applicable.

4006.2 Information and instructions to be provided. (Proposed text is unchanged)

4006.3 Liquid oxygen home care containers. (Proposed text is unchanged)

4006.4 4006.3.1 Manufacturer’s instructions and labeling. (Proposed text is unchanged)

4006.5 4006.3.2 Locating containers. (Proposed text is unchanged)

4006.6 4006.3.3 No smoking. (Proposed text is unchanged)

4006.7 4006.3.4 Signs. (Proposed text is unchanged)

4006.8 4006.3.5 Restraining containers. Liquid oxygen home care containers shall be restrained while in storage or use to prevent falling caused by contact, vibration or seismic activity. Containers shall be restrained by one of the following methods:

1. Restraining containers to a fixed object with one or more restraints.
2. Restraining containers within a framework, stand or assembly designed to secure the container.
3. Restraining containers by locating a container against two points of contact like the walls of a corner of a room or a wall and a secure furnishing or object like a desk.

4006.9 4006.3.6 Container movement. (Proposed text is unchanged)

4006.10 4006.3.7 Filling of containers. The filling of containers shall be in accordance with Sections ~~4006.10~~ 4006.3.7.1 through ~~4006.10.3~~ 4006.3.7.3.

4006.10.1 4006.3.7.1 Filling of home care containers. (Proposed text is unchanged)

4006.10.1.1 4006.3.7.1.1 Incompatible surfaces. (Proposed text is unchanged)

4006.10.2 4006.3.7.2 Filling of ambulatory care containers. (Proposed text is unchanged)

4006.10.3 4006.3.7.3 Open flames and high temperature devices. (Proposed text is unchanged)

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal responds to guidance given by the committee in the 2004/2005 cycle in disapproving code change F215-04/05 and represents a consensus among gas purveyors and fire code officials. It provides needed and reasonable regulation of the hazards associated with the storage and use of liquid oxygen in home health care scenarios. The modification clarifies that Sections 4006.1 and 4006.2 apply to all occupancies and that Sections 4006.3.1 through 4006.3.7.3 apply to Groups I-1, I-4, R-3 Residential Care/Assisted Living and R-4 occupancies.

Assembly Action:

None

Final Hearing Results

F205-06/07

AM

Code Change No: F206-06/07

Original Proposal

Sections: 4104.1, 4104.2, 4105.3, 4106, 604.2.12, Table 903.2.13, Chapter 45

Proponent: Larry Fluor, Fluor, Inc., representing Compressed Gas Association

1. Revise as follows:

4104.1 Indoor storage. Indoor storage of pyrophoric materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 2703.1.1(1), shall be in accordance with Sections 2701, 2703, 2704 and this chapter.

The storage of silane gas and gas mixtures with a silane concentration of ≥ 1.37 percent or more by volume, shall be in accordance with ~~Section 4106~~ CGA G-13.

4104.2 Outdoor storage. Outdoor storage of pyrophoric materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 2703.1.1(3) shall be in accordance with Sections 2701, 2703, 2704 and this chapter.

The storage of silane gas, and gas mixtures with a silane concentration of ≥ 1.37 percent or more by volume, shall be in accordance with ~~Section 4106~~ CGA G-13.

4105.3 Silane gas. The use of silane gas, and gas mixtures with a silane concentration of ≥ 1.37 percent or more by volume, shall be in accordance with ~~Section 4106~~ CGA G-13.

2. Delete section without substitution:

**SECTION 4106
SILANE GAS**

~~**4106.1 General requirements.** The storage and use of silane gas and gas mixtures with a silane concentration of 2 percent or more by volume, in amounts exceeding the maximum allowable quantity per control area indicated in Table 2703.1.1(1) or 2703.1.1(3), shall be in accordance with this section.~~

~~**4106.1.1 Building construction.** Indoor storage and use of silane gas shall be within a room or building conforming to the *International Building Code*.~~

~~**4106.1.2 Flow control.** Compressed gas containers, cylinders and tanks containing silane gas, and gas mixtures with a silane concentration of 2 percent or more by volume, shall be equipped with reduced flow valves equipped with restrictive flow orifices not exceeding 0.010 inch (0.254 mm) in diameter. The presence of the restrictive flow orifice shall be indicated on the valve and on the container, cylinder or tank by means of a label placed at a prominent location by the manufacturer.~~

Exceptions:

1. Manufacturing and filling facilities where silane is produced or mixed and stored prior to sale.
2. Outdoor installations consisting of permanently mounted cylinders connected to a manifold, provided that the outlet connection from the manifold is equipped with a restrictive flow orifice not exceeding 0.125 inch (3.175 mm) in diameter and the setback distance to exposures is not less than 40 feet (12 192 mm). Footnote a of Table 4104.2.1 shall not apply.

4106.1.3 Valves. Container, cylinder and tank valves shall be constructed of stainless steel or other approved materials. Valves shall be equipped with outlet fittings in accordance with CGA V-1.

4106.2 Indoor storage. Indoor storage of silane gas, and gas mixtures with a silane concentration of 2 percent or more by volume, shall be in accordance with Section 4104.1 and Sections 4106.2.1 through 4106.2.3.

4106.2.1 Fire protection. When automatic fire-extinguishing systems are required, automatic sprinkler systems shall be used.

4106.2.2 Exhausted enclosures or gas cabinets. When provided, exhausted enclosures and gas cabinets shall be constructed as follows:

1. Exhausted enclosures and gas cabinets shall be in accordance with Sections 2703.8.5 and 2703.8.6, respectively.
2. Exhausted enclosures and gas cabinets shall be internally sprinklered.
3. The velocity of ventilation across unwelded fittings and connections on the piping system shall not be less than 200 feet per minute (1.02 m/s).
4. The average velocity at the face of the access ports or windows in the gas cabinet shall not be less than 200 feet per minute (1.02 m/s) with a minimum velocity of 150 feet per minute (0.76 m/s) at any point of the access port or window.

**TABLE 4104.2.1
PYROPHORIC GASES—DISTANCE FROM STORAGE TO EXPOSURES^a**

(Delete entire contents of table)

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832m³.

a. The minimum required distances shall be reduced to 5 feet when protective structures having a minimum fire resistance of 2 hours interrupt the line of sight between the container and the exposure. The protective structure shall be at least 5 feet from the exposure. The configuration of the protective structure shall allow natural ventilation to prevent the accumulation of hazardous gas concentrations.

4106.2.3 Emergency power. The ventilation system shall be provided with an automatic emergency power source in accordance with Section 604 and designed to operate at full capacity.

4106.3 Outdoor storage. Outdoor storage of silane gas, and gas mixtures with a silane concentration of 2 percent or more by volume, shall be in accordance with Section 4104.2 and Sections 4106.3.1 through 4106.3.4.

4106.3.1 Volume. The maximum volume for each nest shall not exceed 10,000 cubic feet (283.2 m³) of gas.

4106.3.2 Aisles. Storage nests shall be separated by aisles a minimum of 6 feet (1829 mm) in width.

4106.3.3 Separation. Storage shall be located a minimum of 25 feet (7620 mm) from lot lines, public streets, public alleys, public ways, means of egress or buildings.

4106.3.4 Weather protection. The clear height of overhead construction provided for sheltering of outdoor storage shall not be less than 12 feet (3658 mm).

4106.4 Indoor use and dispensing. The indoor use and dispensing of silane gas and gas mixtures with a silane concentration of 2 percent or more by volume, in amounts exceeding the maximum allowable quantity per control area indicated in Table 2703.1.1(1) shall be in accordance with Sections 4105 and this section.

~~4106.4.1 Exhausted enclosures or gas cabinets.~~ When provided, exhausted enclosures and gas cabinets shall be installed in accordance with Section 4106.2.2.

~~4106.4.2 Remote manual shutdown.~~ A remotely located, manually activated shutdown control shall be provided outside each gas cabinet.

~~4106.4.3 Emergency power.~~ The ventilation system shall be provided with an approved automatic emergency power source in accordance with Section 604 and designed to operate at full capacity.

~~4106.4.4 Purge panels.~~ Automated purge panels shall be provided.

~~4106.4.4.1 Purge gases.~~ Purging of piping and controls located in gas cabinets or exhausted enclosures shall only be performed using a dedicated inert gas supply that is designed to prevent silane from entering the inert gas supply. The use of nondedicated systems or portions of piping systems is allowed on portions of the venting system that are continuously vented to atmosphere. Devices that could interrupt the continuous flow of purge gas to the atmosphere shall be prohibited.

Exception: Manufacturing and filling facilities where silane is produced or mixed.

~~4106.4.4.2 Venting.~~ Gas vent headers or individual purge panel vent lines shall have a continuous flow of inert gas. The inert gas shall be introduced upstream of the first vent or exhaust connection to the header.

~~4106.4.4.3 Purging operations.~~ Purging operations shall be performed by means ensuring complete purging of the piping and control system before the system is opened to the atmosphere.

~~4106.5 Outdoor use and dispensing.~~ The outdoor use and dispensing of silane gas, and gas mixtures with a silane concentration of 2 percent or more by volume, exceeding the maximum allowable quantity per control area indicated in Table 2703.1.1(3) shall be in accordance with Sections 4105, 4106.4 and 4106.5.1.

~~4106.5.1 Outdoor use weather protection.~~ When overhead construction is provided for sheltering outdoor use areas containing silane gas, or gas mixtures with a silane concentration of 2 percent or more by volume, the use areas shall be provided with approved automatic fire-extinguishing system protection.

3. Delete without substitution:

~~604.2.13 Pyrophoric materials.~~ Emergency power shall be provided for occupancies with silane gas in accordance with Sections 4106.2.3 and 4106.4.3.

4. Revise table as follows:

**TABLE 903.2.13
ADDITIONAL REQUIRED FIRE-EXTINGUISHING SYSTEMS**

SECTION	SUBJECT
4106.2.2	Exhaust enclosures or gas cabinets for silane gas

(Portions of table not shown do not change)

5. Add standard to Chapter 45 as follows:

Compressed Gas Association (CGA)

CGA G13-06 Storage and Handling of Silane and Silane Mixtures

Reason: (Items 1. and 2.) The Compressed Gas Association (CGA) proposed the introduction of a CGA standard (then P-32) to be adopted into the IFC with code change F174-00 (2000) for the regulation of the pyrophoric gas silane. When first introduced, the First Edition of the standard had not gone through the ANSI process, and therefore, it was not in a form that could be accepted into the I-Codes. Since that time CGA has responded and has developed the Section Edition of the document, now designated as G-13. The publication of the 2006 Edition of G-13 has undergone the ANSI review process. Comments received from users, producers, and regulatory officials were evaluated by CGA's technical committee and modifications were made to address technical issues and concerns raised in the evaluation process under the published procedures of ANSI.

The use of silane continues to be a major raw material in the production of silicon in various forms as consumed by the semiconductor and solar energy industries. The unique character of this material and the need for specialized controls became apparent to the regulatory community as a result of fires and explosions that occurred in the early use of this material. As the use of the material grew, the CGA engaged an independent testing laboratory to test large scale releases such as those that may be encountered should release occur from a large high

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

pressure bulk source. The flammable range of the material has been established by testing from a low of 1.37% to a high of 96%. The material has also been studied in some detail by SEMATECH, the semiconductor industry's research consortium and by Factory Mutual Insurance an insurer of highly protected risk entities. CGA's technical committee has considered the output of these other organizations throughout the development of the standard beginning with the first edition and continuing into this second edition of the standard. References to pertinent studies are provided in Chapters 18 and 19 of the document.

The standard has been prepared to present a control strategy to address the supply of this material up until the first point at which the user assumes control. CGA G-13 replaces IFC Section 4106. There is no intent for the G-13 standard to replace the requirements of IFC Chapter 18 for H-5 Occupancies. Areas where overlap may occur include requirements for gas cabinets when they are used and special care has been taken to avoid the creation of conflicts to include having the user community represented in the ANSI canvass process.

The requirements of the IFC for silane have been reviewed and compared to requirements of CGA G-13. The table below reflects the comparison based on the subjects addressed by the IFC. CGA G-13 is a fifty (50) page document that addresses the subject in a comprehensive manner. As a result there are a considerable number of elements addressed by the standard that are not reflected in the table below, however, the purpose of the table was to demonstrate to the reader that NOTHING IS BEING LOST by the deletion of Section 4106, rather there is much being gained as the control strategies have been developed to address systems and circumstances not envisioned when the provisions for the gas were crafted into the IFC.

IFC Section	Subject	G-13 Section Referenced	Comments
4106.1	General requirement when silane exceeds the MAQ	1	G-13 applies to cylinder systems in quantities exceeding 0.5 standard cubic feet up to and including bulk gas systems that might be found in ISO modules, tube trailers and other mobile supply units that may be located on site to act as a bulk source of supply.
4106.1.1	Requires buildings to be constructed in accordance with the building code.	various	The use of local and state building codes are referenced in various sections of the document. However, it is assumed that the local building code will apply. Specific references are made to construction elements to be in accord with state and local building codes including walls (section 6.3.2.1), penetrations and opening protection (6.3.2.2), explosion control (7.5), mixed occupancies and detached buildings (7.8.1)
4106.1.2	Requirement for flow control by means of a reduced flow orifice of 0.010" diameter	10.2.4.1	RFO required for non-bulk sources of 0.010" diameter. For bulk sources the diameter is 0.125" (Section 10.2.4.2). The concept of the use of an RFO has been developed in detail to address large distribution systems, the use of valve manifold boxes (VMB) and similar systems. In addition tables have been provided to balance various RFO sizes to required minimum flow rates to achieve control through dilution ventilation systems. The use of the term RFO appears not less than 20 times in the document.
4106.1.3	Requirements for valve construction and compliance for outlet fittings to conform to CGA V-1	5.1	Cylinders are required to conform to requirements of DOT which in turn references CGA standards. The CGA V-1 standard is listed as a reference publication.
4106.2	General requirement for storage to comply with 4106.2	2.1	The scope of the standard applies to storage as well as to use.
4106.2.1	Fire protection limited to sprinkler systems (water required)	12	Fire protection systems are discussed in detail to include the use of deluge systems for bulk supplies and warnings against the use of Halon™ or inerting agents such as carbon dioxide.
4106.2.2	Requirements for gas cabinets. <ul style="list-style-type: none"> Construction to be in accordance with Chapter 27 Sprinklered flow velocity across fittings in cabinet control velocity at openings in cabinets 	various	Sprinklers are required in gas cabinets (12.3.1); control velocity across unwelded fittings is addressed (13.2.2); minimum flow requirements are specified (13.2.3). The control velocity is not specified, rather dilution volumes and ratios required based on the use of reduced flow orifices is the method of control to avoid explosion, both attended and unattended operations are provided with requirements (Tables 5 and 6).
4106.2.3	Ventilation system to be on emergency power at full flow.	Table 7 and Table 8	Mechanical systems are to be provided with Emergency Power
4106.4.4	Automated purge panels required.	15.1	Purging may be either manual or automatic given the fact that the standard covers manufacturing as well as user sites in systems from large to small.
4106.4.4.1	Purge gas required to be: <ul style="list-style-type: none"> dedicated and protected against backflow non-dedicated systems allowed on vents that go to the atmosphere continuous in the vent system to atmosphere 	15	Dedicated source (15.2) Protection against backflow (15.2.2)
4106.4.4.2	Purge gas flow to be continuous in gas vent headers, and <ul style="list-style-type: none"> purge gas to be introduced upstream of the first silane connection to a header 	Figure 9	Required

IFC Section	Subject	G-13 Section Referenced	Comments
4106.4.4.3	Systems to be purged prior to opening to atmosphere.	8.1.3	Required
4106.5	Outdoor use to be in accordance with Section 4106.4 and 4106.5.1	Chapter 6	Detailed requirements provided. Also provided for throughout the document. In concept the document addresses bulk and nonbulk uses indoors and outdoors.
4106.5.1	Areas built as "weather protection" required to be sprinklered.	12.2.2	Requirements for sprinkler system

(Item 3) Emergency Power is required for all mechanical equipment in Tables 7 and 8 of CGA G-13.

(Item 4) Fire protection, by sprinkler systems, is required by Section 12 of CGA G-13.

(Item 5) CGA G-13 is a comprehensive document developed to establish storage and use requirements for bulk and non-bulk silane systems under conditions that parallel those established by the code, e.g., storage, use, indoor, outdoor, etc. The document was developed by a technical committee under the auspices of the Compressed Gas Association and accepted by ANSI through the use of the ANSI canvass process. Users, manufacturers, enforcers and special experts were included in the review process.

Cost Impact: The code change proposal will increase the cost of construction in some circumstances, depending on the location and configuration of the system intended (bulk, non-bulk, indoor, outdoor) as the engineering controls required by the standard are more comprehensive than those required by the existing code. This is due in part to the code being limited in its scope.

Analysis: Results of review of the proposed standard(s) will be posted on the ICC Website by August 20, 2006.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards" provided at the code development hearings:

Analysis: Review of the proposed new standard indicated that, in the opinion of ICC staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Modified

Modify the proposal as follows:

TABLE 4104.2.1 PYROPHORIC GASES—DISTANCE FROM STORAGE TO EXPOSURES^a

(Retain entire contents of table)

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832m³.

- a. The minimum required distances shall be reduced to 5 feet when protective structures having a minimum fire resistance of 2 hours interrupt the line of sight between the container and the exposure. The protective structure shall be at least 5 feet from the exposure. The configuration of the protective structure shall allow natural ventilation to prevent the accumulation of hazardous gas concentrations.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal represents the results of the Compressed Gas Association's response to direction given by the committee regarding CGA's silane gas standard. The standard has achieved designation as an ANSI standard and provides for comprehensive regulation of the hazards of silane gas, thereby eliminating the need to retain IFC Section 4106. The modification corrects an erratum in the monograph.

Assembly Action:

None

Final Hearing Results

F206-06/07

AM

Code Change No: **F207-06/07**

Original Proposal

Chapter 45

Proponent: Standards writing organizations as listed below.

Revise as follows:

ASTM

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Standard
reference
number

Title

D 56-05 02a	Test Method for Flash Point by Tag Closed Tester
D 86-05 04b	Test Method for Distillation of Petroleum Products at Atmospheric Pressure
D 93-05a02a	Test Method for Flash Point by Pensky-Martens Closed Cup Tester
D 3278-(2004)e01 96	Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus
E 84-05e01 04	Test Method for Surface Burning Characteristics of Building Materials

BHMA

Builders Hardware Manufacturers' Association
355 Lexington Avenue, 17th Floor
New York, NY 10017-6603

Standard
reference
number

Title

A156.10-05 99	American National Standard for Power Operated Pedestrian Doors
---------------	--

CGA

Compressed Gas Association
4221 Walney Road
Chantilly, VA 20151-2923

Standard
reference
number

Title

C-7 (2004) (2000)	Guide to the Preparation of Precautionary Labeling and Marking of Compressed Gas Containers
P-18 (2006) (1992)	Standard for Bulk Inert Gas Systems at Consumer Sites
S-1.1(2005) (2002)	Pressure Relief Device Standards – Part 1- Cylinders for Compressed Gases
S-1.2(2005) ((1995)	Pressure Relief Device Standards – Part 2- Cargo and Portable Tanks for Compressed Gases
S-1.3(2005) (1995)	Pressure Relief Device Standards – Part 3- Stationary Storage Containers for Compressed Gases
V-1-(2005) (2002)	Compressed Gas Cylinder Valve Outlet and Inlet Connections

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Standard
reference
number

Title

11-05 02	Low-, Medium-, and High-Expansion Foam
12-05 00	Carbon Dioxide Extinguishing Systems
32-04 00	Drycleaning Plants

35-05 99	Manufacture of Organic Coatings
51A-04 06	Acetylene Cylinder Charging Plants
52-06 02	Vehicular Fuel System Code
59A-06 04	Production, Storage and Handling of Liquefied National Gas (LNG)
101-06 03	Life Safety Code
110-05 02	Emergency and Standby Power Systems
111-05 04	Stored Electrical Energy Emergency and Standby Power Systems
120-04 99	<u>Fire Prevention and Control in Coal Preparation Plants</u> <u>Mines</u>
211-06 03	Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances
241-04 00	Safeguarding Construction, Alteration, and Demolition Operations
286-06 00	Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth
303-06 00	Fire Protection Standards for Marinas and Boatyards
409-04 04	Aircraft Hangars
430-04 00	Storage of Liquid and Solid Oxidizers
484-06 02	Combustible Metals, Metal Powders and Metal Dusts
495-06 04	Explosive Materials Code
498-06 04	Safe Havens and Interchange Lots for Vehicles Transporting Explosives
505-06 02	Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations
654-00 96	Prevention of Fire & Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids
701-04 99	Methods of Fire Tests for Flame Propagation of Textiles and Films
703-06 00	Fire Retardant Impregnated <u>Treated</u> Wood and Fire Retardant Coatings for Building Materials
750-06 03	Water Mist Fire Protection Systems
1123-06 03	Fireworks Display
1124-06 03	Manufacture, Transportation, Storage and Retail Sales of Fireworks and Pyrotechnic Articles
1126-06 04	Use of Pyrotechnics Before a Proximate Audience
2001-04 00	Clean Agent Fire Extinguishing Systems

UL

Underwriters Laboratories
333 Pfingsten Road
Northbrook, IL 60062

Standard reference number	Title
217-97	Single and Multiple Station Smoke Alarms—with Revisions through January 2004 <u>August 2005</u>
268-1996	Smoke Detectors for Fire Protective Signaling Systems—with Revision through January 1999 <u>October 2003</u>
300-05 96	Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas— with Revisions through December 1998
793-03 97	Standards for Automatically Operated Roof Vents For Smoke and Heat <u>with Revisions through April 2004</u>
864-03	Standard for Control Units and Accessories for Fire Alarm Systems — with Revisions through October 1998 <u>July 2005</u>
900-04 94	Air Filter Units— with Revisions Through October 1999
1275-2005 94	Flammable Liquid Storage Cabinets— with Revisions through March 1997
1363-96	Standard for Relocatable Power Taps—with Revisions through July 2004 <u>February 2006</u>
2208-2005 96	Solvent Distillation Units with Revisions through August 2004
2335-01	Fire Tests of Storage Pallets—with Revisions through May 2002 <u>September 2004</u>

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The *ICC Code Development Process for the International Codes (Procedures)* Section 4.5* requires the updating of referenced standards to be accomplished administratively, and be processed as a Code Proposal. In May 2005, a letter was sent to each developer of standards that are referenced in the I-Codes, asking them to provide ICC with a list of their standards in order to update to the current edition. Above is the list received of the referenced standards under the maintenance responsibility of the International Fire Code Committee.

***4.5 Updating Standards:** The updating of standards referenced by the Codes shall be accomplished administratively by the appropriate code development committee in accordance with these full procedures except that multiple standards to be updated may be included in a single proposal.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's published reason statement. The proposal provides appropriate updates to the IFC referenced standards.

Assembly Action:

None

Final Hearing Results

F207-06/07

AS

Code Change No: F208-06/07

Original Proposal

Chapter 45, Sections: 2605.4, 3003.2, 3203.4.3, 3203.8, 3301.1, 3301.1.3, 3301.3, 3302.1, 3406.5.1.15

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

1. Revise Chapter 45 as follows:

DOTn U.S. Department of Transportation
Office of Hazardous Material Standards
400 7th Street, Southwest
Washington, DC 20590

Standard reference number	Title	Referenced in code section number
33 CFR Part 154 — 1998	Facilities Transferring Oil or Hazardous Material in Bulk	3406.8
33 CFR Part 155 — 1998	Oil or Hazardous Material Pollution Prevention Regulations for Vessels	406.8
33 CFR Part 156 — 1998	Oil and Hazardous Material Transfer Operations	3406.8
49 CFR — 1998	Transportation	2605.4, 3302.1
49 CFR Part 1 — 1999	Transportation	3203.4.3, 3203.8
49 CFR Part 172 — 1999 <u>2005</u>	Hazardous Materials Tables, Special Provisions, Hazardous Materials Communications, Emergency Response Information and Training Requirements	3304.6.5.2
49 CFR Part 173 — 1999 <u>2005</u>	Shippers — General Requirements for Shipments and Packagings	3306.3
49 CFR Part 173.137 — 1999 <u>2005</u>	Shippers — General Requirements for Shipments and Packagings: Class 8 — Assignment of Packing Group 3102.1	
49 CFR Parts 100-178 — 1994	Hazardous Materials Regulations	3301.1, 3301.1.3, 3301.3, 3406.5.1.15
<u>49 CFR Parts 100 to 185 - 2005</u>	<u>Hazardous Materials Regulations</u>	<u>2605.4, 3003.2, 3203.4.3, 3203.8, 3301.1, 3301.1.3, 3301.3, 3302.1, 3406.5.1.15</u>

2. Revise as follows:

2605.4 Acetylene gas. Acetylene gas shall not be piped except in approved cylinder manifolds and cylinder manifold connections, or utilized at a pressure exceeding 15 pounds per square inch gauge (psig) (103 kPa) unless dissolved in a suitable solvent in cylinders manufactured in accordance with DOTn 49 CFR Part 178. Acetylene gas shall not be brought in contact with unalloyed copper, except in a blowpipe or torch.

3003.2 Design and construction. Compressed gas containers, cylinders and tanks shall be designed, fabricated, tested, marked with the specifications of manufacture and maintained in accordance with regulations of DOTn 49 CFR, Parts 100-478 185 or the ASME *Boiler and Pressure Vessel Code*, Section VIII.

3203.4.3 Identification of containers. Stationary containers shall be identified with the manufacturing specification and maximum allowable working pressure with a permanent nameplate. The nameplate shall be installed on the container in an accessible location. The nameplate shall be marked in accordance with the ASME *Boiler and Pressure Vessel Code* or DOTn 49 CFR Parts 100-185.

3203.8 Service and repair. Service, repair, modification or removal of valves, pressure relief devices or other container appurtenances, shall comply with Sections 3203.8.1 and 3203.8.2 and the ASME *Boiler and Pressure Vessel Code*, Section VIII or DOTn 49 CFR Parts 100-185.

3301.1 Scope. The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks and small arms ammunition.

Exceptions:

1. The Armed Forces of the United States, Coast Guard or National Guard.
2. Explosives in forms prescribed by the official United States Pharmacopoeia.
3. The possession, storage and use of small arms ammunition when packaged in accordance with DOTn packaging requirements.
4. The possession, storage, and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.
5. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.
6. Special industrial explosive devices which in the aggregate contain less than 50 pounds (23 kg) of explosive materials.
7. The possession, storage and use of blank industrial-power load cartridges when packaged in accordance with DOTn packaging regulations.
8. Transportation in accordance with DOTn 49 CFR Parts 100-478 185.
9. Items preempted by federal regulations.

3301.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

Exceptions:

1. Storage and handling of fireworks as allowed in Section 3304.
2. Manufacture, assembly and testing of fireworks as allowed in Section 3305.
3. The use of fireworks for display as allowed in Section 3308.
4. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided such fireworks comply with, CPSC 16 CFR, Parts 1500 and 1507, and DOTn 49 CFR, Parts 100-478 185, for consumer fireworks.

3301.3 Prohibited explosives. Permits shall not be issued or renewed for possession, manufacture, storage, handling, sale or use of the following materials and such materials currently in storage or use shall be disposed of in an approved manner.

1. Liquid nitroglycerin.
2. Dynamite containing more than 60-percent liquid explosive ingredient.
3. Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage.

4. Nitrocellulose in a dry and uncompressed condition in a quantity greater than 10 pounds (4.54 kg) of net weight in one package.
5. Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden.
6. Explosive compositions that ignite spontaneously or undergo marked decomposition, rendering the products of their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167°F (75°C).
7. New explosive materials until approved by DOTn, except that permits are allowed to be issued to educational, governmental or industrial laboratories for instructional or research purposes.
8. Explosive materials condemned by DOTn.
9. Explosive materials containing an ammonium salt and a chlorate.
10. Explosives not packed or marked as required by DOTn 49 CFR, Parts 100-478 185.

Exception: Gelatin dynamite.

3302.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

EXPLOSIVE. A chemical compound, mixture or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to, dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, igniters and display fireworks, 1.3G (Class B, Special).

The term “explosive” includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive other than consumer fireworks, 1.4G (Class C, Common) by the hazardous materials regulations of DOTn 49 CFR Parts 100-185.

3406.5.1.15 Tank vehicle and tank car certification. Certification shall be maintained for tank vehicles and tank cars in accordance with DOTn 49 CFR, Parts 100-478 185.

Reason: The DOT revises the Hazardous Materials Regulations (HMR) annually. The annual cycle for revisions to Title 49 occurs in October. 49 CFR in its entirety is found under Title 49 Transportation, Volume 2, Chapter 1 – Research and Special Programs Administration, Department of Transportation, Parts 100 through 185 under Subtitle B – Other Regulations Relating to Transportation. A similar code change was submitted in the last code cycle, and a question was raised by a committee member regarding what was new in Parts 179 through 185. Part 179 is titled Specifications for tank cars; Part 180 is titled Continuing qualification and maintenance of packagings, Parts 181 through 185 are designated as Reserved (meaning there is no content at present); however, the use of the full title to include Parts 100 through 185 is how the document is described and listed by the US Government Printing Office, and as accessed by electronic means.

The use of DOT references in the IFC refer the user to Federal Regulations which use is mandatory. As such the general reference found in the code to the HMR is a pointer or an index to point the user in the right direction to obtain detailed regulatory requirements.

General references to “Transportation” (meaning the HMR) have been combined under the last row in the table to eliminate redundancy. The code change proposal is being submitted to update the reference to the most recent Federal publication. By the time this code change is processed the regulations will have again been revised.

As a result of issuing the 2005 update to 49 CFR, correlating changes are proposed to Sections 2605.4, 3003.2, 3102.1, 3203.4.3, 3203.8, 3301.1, 3301.1.3, 3301.3, 3302.1, 3304.6.5.2, 3406.5.1.15. Specific substantiating statements for each of the aforementioned changes to the sections referenced are as follows:

Section 2605.4: Part 178 is titled Specifications for Packagings. Specifications for cylinders are found in Subpart C to Part 178.

Section 3003.2: Part 179 contains specifications for cargo tank cars, tank car tanks including multi-unit tank car tanks. Part 180 contains requirements for the Continuing Qualification and Maintenance of Packagings.

Section 3102.1: The reference in Chapter 45 has been updated to the 2005 edition of the CFR. There are no changes proposed to Section 3102.1.

Section 3203.4.3: Stationary cryogenic containers are typically constructed to ASME Boiler and Pressure Vessel Code requirements. DOT regulations typically apply to containers that are used in the transportation phase. In some instances DOT containers have been viewed as stationary containers, for example, when connected to piping systems serving fixed facilities. 49CFR178 addresses Specifications for Packagings. General requirements in Section 178.35(f) specify the types of markings that are required along with their placement. Subsection 178.338 provides requirements for specification MC-338 cargo tanks. Marking requirements are found in 178.338-18.

Section 3203.8: From a practical standpoint service and repairs of valves, pressure relief devices and appurtenances on cryogenic vessels is done in accordance with nationally recognized standards including those published by the Compressed Gas Association. When repairs are done on containers manufactured to ASME or DOT specifications prescriptive provisions are applied based on the specifications of manufacture.

Section 3301.1, Item 8: The listed reference to Parts 100-178 of the 1994 Edition of the CFR is obsolete. A general reference to Parts 100-185 – 2005 updates the code with a current reference.

Section 3301.1.3: The listed reference to Parts 100-178 of the 1994 Edition of the CFR is obsolete. A general reference to Parts 100-185 – 2005 updates the code with a current reference.

Section 3301.3, Item 10: The listed reference to Parts 100-178 of the 1994 Edition of the CFR is obsolete. A general reference to Parts 100-185 – 2005 updates the code with a current reference.

Section 3302.1 (Explosive): 49CFR specifies the materials classified as explosives. The use of the terminology is found within several different sections of 49CFR including Parts 171, 172 and 173. The all encompassing reference to DOTn 49CFR Parts 100 – 185 correlates with the general reference listed in the existing code, e.g., DOTn 49 CFR without changing the intent of the reference.

Section 3304.6.5.2: 49CFR172.504 specifies the general placarding requirements for explosive materials. There are no changes proposed to Section 3304.6.5.2.

Section 3406.5.1.15: Tank vehicle and tank car certification. The reference to Parts 100 to 178 is obsolete. Specifications for cargo tank motor vehicles are found in Section 178 and specifications for tank cars are found in Section 179.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's published reason statement. The proposal provides a much-needed and appropriate update to the IFC referenced US DOTn standards.

Assembly Action:

None

Final Hearing Results

F208-06/07

AS

Code Change No: F210-06/07

Original Proposal

Chapter XX (New)

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Add new chapter as follows:

CHAPTER XX
MARINAS

SECTION XX01
SCOPE

XX01.1 Scope. Marina facilities shall be in accordance with this chapter.

XX01.1.1 Plans and approvals. Plans for marina fire-protection facilities shall be approved prior to installation. The work shall be subject to final inspection and approval after installation.

SECTION XX02
DEFINITIONS

XX02.1 Definitions. The following words and terms shall, for the purpose of this chapter and as used elsewhere in this code, have the meanings shown herein.

FLOAT. A floating structure normally used as a point of transfer for passengers and goods, or both, for mooring purposes.

MARINA. Any portion of the ocean or inland water, either naturally or artificially protected, for the mooring, servicing or safety of vessels and shall include artificially protected works, the public or private lands ashore, and structures or facilities provided within the enclosed body of water and ashore for the mooring or servicing of vessels or the servicing of their crews or passengers.

PIER. A structure built over the water, supported by pillars or piles, and used as a landing place, pleasure pavilion or similar purpose.

VESSEL. Watercraft of any type, other than seaplanes on the water, used or capable of being used as a means of transportation. Included in this definition are non transportation vessels such as houseboats and boathouses.

WHARF. A structure or bulkhead constructed of wood, stone, concrete or similar material built at the shore of a harbor, lake or river for vessels to lie alongside of, and piers or floats to be anchored to.

SECTION XX03 **GENERAL PRECAUTIONS**

XX03.1 Combustible debris. Combustible debris and rubbish shall not be deposited or accumulated on land beneath marina structures, piers or wharves.

XX03.2 Sources of ignition. Open-flame devices used for lighting or decoration on the exterior of a vessel, float, pier or wharf shall be approved.

XX03.3 Flammable or combustible liquid spills. Spills of flammable or combustible liquids at or upon the water shall be reported immediately to the fire department or jurisdictional authorities.

XX03.4 Rubbish containers. Containers with tight fitting or self closing lids shall be provided for the temporary storage of combustible trash or rubbish.

XX03.5 Electrical equipment. Electrical equipment shall be installed and used in accordance with its listing and Section 605 and NFPA 303, Chapter 3 as required for wet, damp and hazardous locations.

XX03.6 Berthing and storage. Berthing and storage shall be in accordance with NFPA 303, Chapter 5.

SECTION XX04 **FIRE-PROTECTION EQUIPEMENT**

XX04.1 General. Piers, wharves with facilities for mooring or servicing five or more vessels, and marine motor vehicle fuel-dispensing stations shall be equipped with fire-protection equipment in accordance with Section XX04.

XX04.2 Standpipes. Marinas and boatyards shall be equipped throughout with standpipe systems in accordance with NFPA 303.

XX04.3 Access and water supply. Piers and wharves shall be provided with fire apparatus access roads and water-supply systems with on-site fire hydrants when required by the fire code official. Such roads and water systems shall be provided and maintained in accordance with Sections 503.2 and 508.

XX04.4 Portable fire extinguishers. One fire extinguisher for ordinary (moderate) hazard type, shall be provided at each required hose station. Additional fire extinguishers, suitable for the hazards involved, shall be provided and maintained in accordance with Section 906.

XX04.5 Communications. A telephone not requiring a coin to operate or other approved, clearly identified means to notify the fire department shall be provided on the site in a location approved by the code official.

SECTION XX05 **MARINE MOTOR VEHICLE FUEL-DISPENSING STATIONS**

XX05.1 Fuel- Dispensing. Marine motor vehicle fuel-dispensing stations shall be in accordance with Chapter 22.

Reason: It has been identified the IFC currently has no requirements for the general fire safety precautions or protection equipment for marinas. Because of the different environment that a marina presents in fighting fires, than a normal business, these facilities need to be specifically addressed in the IFC.

In the last three years the largest marina fires in the US caused over 67 million dollars in damage with the complete loss of 272 boats and houseboats. A perfect example of the need to address marinas in the IFC is the following incident:

\$10 MILLION MARINA FIRE **Bohemia Bay, Maryland**

FIRE PROTECTION CODES AND EQUIPMENT

There was no fire detection or sprinkler systems at Bohemia Bay. The marina structure was completed in October 1986. It was built under a Maryland code that did not require fire detection, fire sprinkler, or standpipe systems. In addition, there was no requirement for providing readily accessible areas for fire department drafting operations.

Portable fire extinguishers located on finger piers were the main fire protection equipment provided in the entire marina. As a result of persuasion by the local fire department, a two inch dry standpipe line running the length of docks 'D' and 'E' had been installed. (The adequacy of such standpipe lines should be questioned because of their small size and the location of hose outlets.) There was no standpipe on the pier with the fire. A new Maryland code was adopted, which incorporated the B.O.C.A. code. The B.O.C.A. code adopts NFPA Standard #303, Protection to Marinas, and will require all future structures of this type and use to be equipped with fire protection, fire suppression, and standpipe systems. They must also provide reliable and accessible sources of water for fire fighting.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal treats the subject matter in too broad a fashion and would have a negative impact upon small marinas that have not been shown to be a problem. For example, a wilderness outpost that rents out six kyaks or a youth camp that owns and docks 5 sailboats should not have to comply with all the requirements simply because they fit the definition. Also, the provisions would be applicable to any type of watercraft by definition in Section XX02. The threshold for fire protection equipment at 5 vessels is too low. There is no guidance regarding reportable quantities for fuel spills in Section XX03.3. The subject matter would be more appropriate as an appendix to the code, as it was in the legacy Uniform Fire Code/97, since not all jurisdictions would have use for it.

Assembly Action:

Approved as Submitted

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

Public Comment:

Greg Rogers, representing Washington State Association of Fire Marshals, requests Approval as Modified by this public comment.

Modify proposal as follows:

Chapter XX MARINAS

SECTION XX02 DEFINITIONS

XX02.1 Definitions. The following words and terms shall, for the purpose of this chapter and as used elsewhere in this code, have the meanings shown herein.

VESSEL is a motorized watercraft of any type, other than seaplanes on the water, used or capable of being used as a means of transportation. Included in this definition are non transportation vessels such as houseboats and boathouses.

XX03.4 Rubbish containers. Metal containers with tight-fitting or self-closing metal lids shall be provided for the temporary storage of combustible trash or rubbish.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: To address the concern from the committee based on the published written comments in the 2006 Report of the Public Hearing. We have changed the definition of vessel to eliminate these requirements for small marinas with kayaks and small non-motorized sailboats.

One of the other areas mention was the negative impact on small marinas and the threshold of 5 vessels for fire protection equipment was too small. Current, the IFC requires standpipe systems for all marinas and boatyards with no limit under section 905.3.7. This would require a marina with one boat/vessel/kayak/sailboat/jet-ski to have standpipe system installed. This proposal actually increases the current IFC required threshold from zero to five.

To address the comments of making "this proposal an appendix, since not all jurisdictions would have to use it." If this is the direction the IFC is going, then ICC and members should look at making Chapter 16 Fruit and Crop Ripening, Chapter 17 Fumigation and Thermal Insecticidal Fogging, Chapter 18 Semiconductor Fabrication Facilities and other areas not used by every jurisdiction an appendix. Marina's are no different than any other item listed in the Fire Code. Because of the different environment that marinas present to firefighters while fighting fires, unlike a normal business, these facilities need to be specifically addressed in the IFC and not in an appendix.

Every year during the code hearings, the code development committee wants technical justification, below is justification to better understand the marina problem. In the last three years the largest marina fires in the US caused over 67 million dollars in damage with the complete loss of 272 boats and houseboats. A perfect example of the need to address marinas in the IFC is the following incident:

\$10 MILLION MARINA FIRE
Bohemia Bay, Maryland

FIRE PROTECTION CODES AND EQUIPMENT

There was no fire detection or sprinkler systems at Bohemia Bay. The marina structure was completed in October 1986. It was built under a Maryland code that did not require fire detection, fire sprinkler, or standpipe systems. In addition, there was no requirement for providing readily accessible areas for fire department drafting operations.

Portable fire extinguishers located on finger piers were the main fire protection equipment provided in the entire marina. As a result of persuasion by the local fire department, a two inch dry standpipe line running the length of docks 'D' and 'E' had been installed. (The adequacy of such standpipe lines should be questioned because of their small size and the location of hose outlets.) There was no standpipe on the pier with the fire. A new Maryland code was adopted, which incorporated the B.O.C.A. code. The B.O.C.A. code adopts NFPA Standard #303, Protection to Marinas, and will require all future structures of this type and use to be equipped with fire protection, fire suppression, and standpipe systems. They must also provide reliable and accessible sources of water for fire fighting.

Final Hearing Results

F210-06/07

AMPC1

Code Change No: F211-06/07

Original Proposal

Appendix B, Section B105.1

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

B105.1 One- and two-family dwellings. The minimum fire-flow and flow duration requirements for one- and two-family dwellings having a fire-flow calculation area which does not exceed 3,600 square feet (344.5 m²) shall be 1,000 gallons per minute (3785.4 L/min) for 2 hours. Fire flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m²) shall not be less than that specified in Table B105.1.

Reason: In Section B105.1 the required fire flow for one- and two-family dwellings not exceeding 3,600 square feet is 1,000 gallons per minute. There is not a flow duration associated with this required fire flow. Because these flow durations are used by water companies a fire flow duration should be required.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

B105.1 One- and two-family dwellings. The minimum fire-flow and flow duration requirements for one- and two-family dwellings having a fire-flow calculation area which does not exceed 3,600 square feet (344.5 m²) shall be 1,000 gallons per minute (3785.4 L/min) for 2 1 hours. Fire flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m²) shall not be less than that specified in Table B105.1.

Committee Reason: Based on the proponent's reason statement. The proposal provides a needed fire flow duration for average dwellings. The 2-hour duration was chosen because it is the minimum duration in current Table B105.1. The modification recognizes that the fire flow for a dwelling 3,600 sq.ft. or less in area should not be the same as that for dwellings over 3,600 sq.ft. and reduces it to a more reasonable 1-hour.

Assembly Action:

None

Final Hearing Results

F211-06/07

AM

Code Change No: **F212-06/07**

Original Proposal

Appendix B, Table B105.1

Proponent: Steven L. Schoon, Golder Ranch Fire District, representing Arizona Fire Marshals Association

Revise table as follows:

TABLE B105.1 MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS^a

~~a. The minimum required fire flow shall be allowed to be reduced by 25 percent for Group R.~~

Reason: The purpose is deleting an unnecessary additional reduction in minimum required fire flow: Going back to the approved proposal F126-01, Appendix B, B105.2 Exception, was modified allowing a reduction in required fire flow of up to 50 percent, as approved, when the building is provided with an approved automatic sprinkler system. The proponent's reasoning was an effort to make the appendix consistent with the ISO *Guide for Determination of Required Fire Flow*. The approved proposal F239-02 added a footnote to Table B105.1 which reads, "a. The minimum required fire flow shall be allowed to be reduced by 25 percent for Group R." The proponent's reason was to include the additional 25 percent occupancy reduction factor for residential uses, as indicated in the ISO Guide.

Approved proposal F244-04/05 again modified Appendix B, B105.2 Exception, allowing a reduction in required fire flow of up to 75 percent, as approved, when the building is provided with an approved automatic sprinkler system. The proposal did not include the deletion of Footnote a. As printed in the 2006 IFC, the fire flow appears to allow a reduction of up to 75%, as approved, for an automatic sprinkler system and an additional 25% for Group R occupancies. Footnote a. needs to be removed from Table B105.1.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal deletes a table note that creates confusion and is no longer needed based on previous code changes to Appendix B. If applied with current Section B105.2, Exception, the current note could be interpreted to allow a total reduction in fire flow of 100%, which is not the appendix's intent.

Assembly Action:

None

Final Hearing Results

F212-06/07

AS

Code Change No: **F213-06/07**

Original Proposal

Appendix C, Table C105.1

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

TABLE C105.1 NUMBER AND DISTRIBUTION OF FIRE HYDRANTS

(No change to current table contents)

- a. (No change to current text)
- b. Where streets are provided with median dividers which ~~can~~ cannot be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.
- c. through e. (No change to current text)

Reason: The current text makes no sense as it is written. It is clear that the intent of the note is to require hydrants on both sides of the street where high traffic volume or physical barriers would limit access to hydrants installed on one side only. Changing “can” to “cannot” will eliminate an obvious glitch that goes back to the 1994 UFC and beyond.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent’s reason statement. The proposal corrects what appears to be a typographical error carried over from a legacy code during drafting of the IFC.

Assembly Action:

None

Final Hearing Results

F213-06/07

AS

Code Change No: F215 -06/07

Original Proposal

Appendix F, Table F101.2

Proponent: Jeffrey M. Shapiro, P.E., International Code Consultants, representing himself

Revise as follows:

**TABLE F101.2
FIRE FIGHTER WARNING PLACARD DESIGNATIONS
BASED ON HAZARD CLASSIFICATION CATEGORIES**

HAZARD CATEGORY	DESIGNATION
Combustible liquid II	F2
Combustible liquid IIIA	F2
Combustible liquid IIIB	F1
Combustible dust	F4
Combustible fiber	F3
Cryogenic flammable	F4, H3
Cryogenic oxidizing	OX, H3
Explosive	R4
Flammable solid	F2
Flammable gas (gaseous)	F4
Flammable gas (liquefied)	F4
Flammable liquid IA	F4
Flammable liquid IB	F3
Flammable liquid IC	F3
Organic peroxide, UD	R4
Organic peroxide I	F4, R3
Organic peroxide II	F3, R3
Organic peroxide III	F2, R2
Organic peroxide IV	F1, R1
Organic peroxide V	Nonhazard —None
Oxidizing gas (gaseous)	OX
Oxidizing gas (liquefied)	OX
Oxidizer 4	OX
Oxidizer 3	OX
Oxidizer 2	OX
Oxidizer 1	None
Pyrophoric gases	F4
Pyrophoric solids, liquids	F3
Unstable reactive 4D	R4
Unstable reactive 3D	R4
Unstable reactive 3N	R3
Unstable reactive 2	R2
<u>Unstable reactive 1</u>	None
Water reactive 3	W, R3
Water reactive 2	W, R2
<u>Water reactive 1</u>	None
Corrosive	H3, COR
Toxic	H3
Highly toxic	H4

F—Flammable category.

R—Reactive category.

H—Health category.

W—Special hazard: water reactive.

OX—Special hazard: oxidizing properties.

COR—Corrosive.

UD—Unclassified detonable material.

4D—Class 4 detonable material.

3D—Class 3 detonable material.

3N—Class 3 nondetonable material.

Reason: Several years ago, code Change F81-01 deleted the entries in Table F101.2 for Oxidizer 1, Water reactive 1 and Unstable reactive 1 materials based on a determination that these materials did not warrant placarding. However Class V organic peroxides remained in the table with the designation “nonhazard.” This inconsistency leaves code users wondering why all of the materials regulated by the IFC are included in the table except the three missing Class 1 categories. It makes more sense to include these categories in the table so that the table is complete, but then designate them as not requiring an NFPA 704 designation. Use of the term “none” is more appropriate than “nonhazard.”

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

Hazard Category	Designation
Oxidizer 4	OX <u>4</u>
Oxidizer 3	OX <u>3</u>
Oxidizer 2	OX <u>2</u>
Oxidizer 1	None OX 1
Unstable reactive 1	None
Water reactive 3	W <u>3</u> -R <u>3</u>
Water reactive 2	W <u>2</u> -R <u>2</u>

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the intent of the table as to the placarding requirements for the noted materials. The modification also provides correlation with the designations used in NFPA 704-01.

Assembly Action:

None

Final Hearing Results

F215-06/07

AM

Code Change No: F217-06/07

Original Proposal

Appendix H (New)

Proponent: Pat McLaughlin, McLaughlin & Associates, representing The Sherwin Williams Company

Add new appendix as follows: (Underline omitted for clarity)

**APPENDIX H
HAZARDOUS MATERIALS MANAGEMENT PLANS AND
HAZARDOUS MATERIALS INVENTORY STATEMENTS**

(See IFC Sections 2701.5.1 and 2701.5.2)

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION 1 — SCOPE

Hazardous materials inventory statements (HMIS) and hazardous materials management plans (HMMP) which are required by the chief pursuant to Chapter 27 shall be provided for hazardous materials in accordance with Appendix H.

Exceptions:

1. Materials which have been satisfactorily demonstrated not to present a potential danger to public health, safety or welfare, based upon the quantity or condition of storage, when approved.
2. Chromium, copper, lead, nickel and silver need not be considered hazardous materials for the purposes of Appendix H unless they are stored in a friable, powdered or finely divided state.

Proprietary and trade secret information shall be protected under the laws of the state or jurisdiction having authority.

SECTION 2 — HAZARDOUS MATERIALS INVENTORY STATEMENTS (HMIS)

2.1 When Required. A separate HMIS shall be provided for each building, including its appurtenant structures, and each exterior facility in which hazardous materials are stored.

The hazardous materials inventory statement shall list by hazard class all hazardous materials stored. The hazardous materials inventory statement shall include the following information for each hazardous material listed:

1. Hazard class.
2. Common or trade name.
3. Chemical name, major constituents and concentrations if a mixture. If a waste, the waste category.
4. Chemical Abstract Service number (CAS number) found in 29 Code of Federal Regulations (C.F.R.).
5. Whether the material is pure or a mixture, and whether the material is a solid, liquid or gas.
6. Maximum aggregate quantity stored at any one time.
7. Storage conditions related to the storage type, temperature and pressure.

2.2 Changes to HMIS. An amended HMIS shall be provided within 30 days of the storage of any hazardous materials which changes or adds a hazard class or which is sufficient in quantity to cause an increase in the quantity which exceeds 5 percent for any hazard class.

SECTION 3— HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP)

3.1 General. Applications for a permit to store hazardous materials shall include an HMMP standard form or short form in accordance with Section NO TAG and shall provide a narrative description of the operations and processes taking place at the facility. See Figure A-H-1.

3.2 Information Required. The HMMP standard form shall include the information detailed in Section 3.2.

3.2.1 General Information. General information, including business name and address, emergency contacts, business activity, business owner or operator, SIC code, number of employees and hours, Dunn and Bradstreet number, and signature of owner, operator or designated representative.

3.2.2 General site plan. A general site plan drawn at a legible scale which shall include, but not be limited to, the location of buildings, exterior storage facilities, permanent access ways, evacuation routes, parking lots, internal roads, chemical loading areas, equipment cleaning areas, storm and sanitary sewer accesses, emergency equipment and adjacent property uses. The exterior storage areas shall be identified with the hazard class and the maximum quantities per hazard class of hazardous materials stored. When required by the chief, information regarding the location of wells, flood plains, earthquake faults, surface water bodies and general land uses within 1 mile (1.609 km) of the facility boundaries shall be included.

3.2.3 Building floor plan. A building floor plan drawn to a legible scale which shall include, but not be limited to, hazardous materials storage areas within the building and shall indicate rooms, doorways, corridors, means of egress and evacuation routes. Each hazardous materials storage facility shall be identified by a map key which lists the individual hazardous materials, their hazard class and quantity present for each area.\

3.2.4 Hazardous materials handling. Information showing that activities involving the handling of hazardous materials between the storage areas and manufacturing processes on site are conducted in a manner to prevent the accidental release of such materials.

3.2.5 Chemical capability and separation. Information showing procedures, controls, signs or other methods used to ensure separation and protection of stored materials from factors which could cause accidental ignition or reaction of ignitable, reactive or incompatible materials in each area.

3.2.6 Monitoring program. Information including, but not limited to, the location, type, manufacturer's specifications, if applicable, and suitability of monitoring methods for each storage facility when required.

3.2.7 Inspection and recording keeping. Schedules and procedures for inspecting safety and monitoring and emergency equipment. The permittee shall develop and follow a written inspection procedure acceptable to the chief for inspecting the facility for events or practices which could lead to unauthorized discharges of hazardous materials. Inspections shall be conducted at a frequency appropriate to detect problems prior to a discharge. An inspection check sheet shall be developed to be used in conjunction with routine inspections. The check sheet shall provide for the date, time and location of inspection; note problems and dates and times of corrective actions taken; and include the name of the inspector and the countersignature of the designated safety manager for the facility.

3.2.8 Employee training. A training program appropriate to the types and quantities of materials stored or used shall be conducted to prepare employees to safely handle hazardous materials on a daily basis and during emergencies. The training program shall include:

1. Instruction in safe storage and handling of hazardous materials, including maintenance of monitoring records.
2. Instruction in emergency procedures for leaks, spills, fires or explosions, including shutdown of operations and evacuation procedures, and
3. Record-keeping procedures for documenting training given to employees.

3.2.9 Emergency response. A description of facility emergency procedures is to be provided.

3.3 HMMP Short Form—(Minimal Storage Site). A facility shall qualify as a minimal storage site if the quantity of each hazardous material stored in one or more facilities in an aggregate quantity for the facility is 500 pounds (227 kg) or less for solids, 55 gallons (208.2 L) or less for liquids, or 200 cubic feet (5.7 m³) or less at NTP for compressed gases and does not exceed the threshold planning quantity as listed in 40 C.F.R., Part 355, Sections 302 and 304. The applicant for a permit for a facility which qualifies as a minimal storage site is allowed to file the short form HMMP. Such plan shall include the following components:

1. General facility information,
2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored,
3. Information describing that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored, and
4. Assurance that security precautions have been taken, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained, and the disposal of hazardous materials will be in an appropriate manner.

SECTION 4 — MAINTENANCE OF RECORDS

Hazardous materials inventory statements and hazardous materials management plans shall be maintained by the permittee for a period of not less than three years after submittal of updated or revised versions. Such records shall be made available to the chief upon request.

FIGURE A-H-1 SAMPLE FORMAT HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) INSTRUCTIONS

SECTION I—FACILITY DESCRIPTION

1.1.A Part A

1. Fill out Items 1 through 11 and sign the declaration.
2. Only Part A of this section is required to be updated and submitted annually, or within 30 days of a change.

1.2 Part B — General Facility Description (Site Plan)

1. Provide a site plan on 8 ½-by 11-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, showing the location of all buildings, structures, chemical loading areas, parking lots, internal roads, storm and sanitary sewers, wells, and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.
2. List all special land uses within 1 mile (1.609 km).

1.3 Part C — Facility Storage Map (Confidential Information)

1. Provide a floor plan of each building on 8 ½- by 11-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, with approximate scale and northern direction, showing the location of each storage area. Mark map clearly "Confidential—Do not disclose" for trade-secret information as specified by federal, state and local laws.
2. Identify each storage area with an identification number, letter, name or symbol.
3. Show the following:
 - 3.1. Accesses to each storage area.
 - 3.2. Location of emergency equipment.
 - 3.3. The general purpose of other areas within the facility.
 - 3.4. Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.
4. Map key. Provide the following on the map or in a map key or legend for each storage area:
 - 4.1. A list of hazardous materials, including wastes.
 - 4.2. Hazard class of each hazardous waste.
 - 4.3. The maximum quantity for hazardous materials.
 - 4.4. Include the contents and capacity limit of all tanks at each area and indicate whether they are above or below ground.
 - 4.5. List separately any radioactives, cryogenes and compressed gases for each facility.
 - 4.6. Trade-secret information shall be listed as specified by federal, state and local laws.

SECTION II — HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)**2.1. Part A — Declaration**

Fill out all appropriate information.

2.2.1 Part B—Inventory Statement

1. You must complete a separate inventory statement for all waste and nonwaste hazardous materials. List all hazardous materials in alphabetical order by hazard class.
2. Inventory Statement Instructions

Column	Information Required
1.	Provide hazard class for each material.
2.	Nonwaste. Provide the common or trade name of the regulated material.
3.	Waste. In lieu of trade names, you may provide the waste category.
4.	Provide the chemical name and major constituents and concentrations, if a mixture.
5.	Enter the chemical abstract service number (CAS number) found in 29 C.F.R. For mixtures, enter the CAS number of the mixture as a whole if it has been assigned a number distinct from its constituents. For a mixture that has no CAS number, leave this item blank or report the CAS numbers of as many constituent chemicals as possible.
6.	Enter the following descriptive codes as they apply to each material. You may list more than one code, if applicable. <ul style="list-style-type: none"> P = Pure M = Mixture S = Solid L = Liquid G = Gas
7.	<ol style="list-style-type: none"> 7.1. Provide the maximum aggregate quantity of each material handled at any one time by the business. For underground tanks, list the maximum volume [in gallons (liters)] of the tank.. 7.2. Enter the estimated average daily amount on site during the past year.

8. Enter the units used in Column 6 as:
LB = Pounds
GA = Gallons
CF = Cubic Feet
9. Enter the number of days that the material was present on site (during the last year).
10. Enter the storage codes below for type, temperature and pressure.

Type

- A = Aboveground Tank
B = Belowground Tank
C = Tank inside Building
D = Steel Drum
E = Plastic or Nonmetallic Drum
F = Can
G = Carboy
H = Silo
I = Fiber Drum
J = Bag
K = Box
L = Cylinder
M = Glass Bottle or Jug
N = Plastic Bottles or Jugs
O = Tote Bin
P = Tank Wagon
Q = Rail Car
R = Other

Temperature

- 4 = Ambient
5 = Greater than Ambient
6 = Less than Ambient, but not Cryogenic [less than -150°F (-101.1°C)]
7 = Cryogenic conditions [less than -150°F (-101.1°C)]

Pressure

- 1 = Ambient (Atmospheric)
2 = Greater than Ambient (Atmospheric)
3 = Less than Ambient (Atmospheric)

11. For each material listed, provide the SARA hazard class as listed below. You may list more than one class. These categories are defined in 40 C.F.R. 370.3.

Physical Hazards

- F = Fire
P = Sudden Release of Pressure
R = Reactivity

Health Hazards

- I = Immediate (Acute)
D = Delayed (Chronic)

12. Waste Only. For each waste, provide the total estimated amount of hazardous waste handled throughout the course of the year.

SECTION III—SEPARATION AND MONITORING**3.1 Part A—Aboveground**

Fill out Items 1 through 6, or provide similar information for each storage area shown on the facility map. Use additional sheets as necessary.

3.2 Part B—Underground

1. Complete a separate page for each underground tank, sump, vault, below-grade treatment system, etc.
2. Check the type of tank and method(s) that applies to your tank(s) and piping, and answer the appropriate questions. Provide any additional information in the space provided or on a separate sheet.

SECTION IV — WASTE DISPOSAL

Check all that apply and list the associated wastes for each method checked.

SECTION V — RECORDING KEEPING

Include a brief description of your inspection procedures. You are also required to keep an inspection log and recordable discharge log, which are designed to be used in conjunction with routine inspections for all storage facilities or areas. Place a check in each box that describes your forms. If you do not use the sample forms, provide copies of your forms for review and approval.

SECTION VI — EMERGENCY-RESPONSE PLAN

1. This plan should describe the personnel, procedures and equipment available for responding to a release or threatened release of hazardous materials that are stored, handled or used on site.
2. A check or a response under each item indicates that a specific procedure is followed at the facility, or that the equipment specified is maintained on site.
3. If the facility maintains a more detailed emergency-response plan on site, indicate this in Item 5. This plan shall be made available for review by the inspecting jurisdiction.

SECTION VII — EMERGENCY RESPONSE TRAINING PLAN

1. This plan should describe the basic training plan used at the facility.
2. A check in the appropriate box indicates the training is provided or the records are maintained.
3. If the facility maintains a more detailed emergency-response training plan, indicate this in Item 4. This plan shall be made available for review by the inspecting jurisdiction.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

PART A—GENERAL INFORMATION

1. Business Name: _____ Phone: _____
 Address: _____

2. Person Responsible for the Business:
 Name Title Phone

3. Emergency Contacts:
 Name Title Home Number Work Number

4. Person Responsible for the Application/Principal Contact:
 Name Title Phone

5. Property Owner:
 Name Address Phone

- 6. Principal Business Activity: _____
- 7. Number of Employees: _____
- 8. Number of Shifts: _____
- 9. Hours of Operation: _____
- 10. SIC Code: _____
- 11. Dunn and Bradstreet Number: _____
- 12. Declaration

I certify that the information above and on the following parts is true and correct to the best of my knowledge.

Signature: _____ Date _____
 Print Name: _____ Title: _____

(Must be signed by owner/operator or designated representative)

PART B—GENERAL FACILITY DESCRIPTION/SITE PLAN
 (Use grid format below.)

Special land uses within 1 mile (1.609 km): _____

PART C—FACILITY MAP
 (Use grid format below.)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
1															1
2															2
3															3
4															4
5															5
6															6
7															7
8															8
9															9
10															10
11															11
12															12
13															13
14															14
15															15
16															16
17															17
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
BUSINESS NAME													DATE		
ADDRESS										CITY				PAGE _____	
														OF _____	

FIGURE A-H-1 — (Continued)
SECTION II: HAZARDOUS MATERIALS INVENTORY STATEMENT
PART A — DECLARATION

1. Business Name: _____

2. Address: _____

3. Declaration:

Under penalty of perjury, I declare the above and subsequent information, provided as part of the hazardous materials inventory statement, is true and correct.

Signature: _____ Date: _____

Print Name: _____ Title: _____

(Must be signed by owner/operator or designated representative)

PART B — HAZARDOUS MATERIALS INVENTORY STATEMENT

(1) HAZARD CLASS	(2) COMMON/TRADE NAME	(3) CHEMICAL NAME, COMPONENTS AND CONCENTRATION	(4) CHEMICAL ABSTRACT SERVICE NO.	(5) PHYSICAL STATE	(6) MAXIMUM QUANTITY ON HAND AT ANY TIME	(7) UNITS	(8) DAYS ON SITE	(9) STORAGE CODE (TYPE, PRES., TEMP.)	(10) SARA CLASS	(11) ANNUAL WASTE THROUGHPUT

SECTION III: SEPARATION, SECONDARY CONTAINMENT AND MONITORING
PART A — ABOVEGROUND STORAGE AREAS

Storage Area Identification (as shown on facility map): _____

1. Storage Type:

- | | |
|---|-----------------------|
| _____ Original Containers | _____ Safety Cans |
| _____ Inside Machinery | _____ Bulk Tank |
| _____ 55-gallon (208.2 L) Drums or Storage Shed | _____ Outside Barrels |
| _____ Pressurized Vessel | |
| _____ Other: _____ | |

2. Storage Location:

- | | |
|-----------------------|------------------------|
| _____ Inside Building | _____ Outside Building |
| | _____ Secured |

3. Separation:

- | | |
|--------------------------------------|---------------------------|
| _____ All Materials | _____ One-hour Separation |
| _____ Compatible | _____ Wall/Partition |
| _____ Separated by 20 Feet (6096 mm) | _____ Approved Cabinets |
| _____ Other: _____ | |

4. Secondary Containment:

- | | |
|------------------------|----------------------------|
| _____ Approved Cabinet | _____ Secondary Drums |
| _____ Tray | _____ Bermed, Coated Floor |
| _____ Vaulted Tank | _____ Double-wall Tank |
| _____ Other: _____ | |

FIGURE A-H-1 — (Continued)

5. Monitoring:
 _____ Visual _____ Continuous
 _____ Other:

Attach specifications if necessary

6. Monitoring Frequency:
 _____ Daily _____ Weekly
 _____ Other:

Attach specifications if necessary

**SECTION III: SEPARATION, CONTAINMENT AND MONITORING
 PART B — UNDERGROUND**

SINGLE-WALL TANKS AND PIPING

Tank Area Identification (as shown on facility map): _____

1. _____ Backfill Vapor Wells
 Model and Manufacturer: _____

 Continuous or Monthly Testing: _____
2. _____ Groundwater Monitoring Wells
3. _____ Monthly Precision Tank Test
4. _____ Piping
 Monitoring Method: _____
 Frequency: _____
5. _____ Other: _____

DOUBLE-WALL TANKS AND PIPING

Tank Area Identification (as shown on facility map): _____

1. Method of monitoring the annular space: _____

2. Frequency:
 _____ Continuous _____ Daily _____ Weekly
 _____ Other: _____
3. List the type of secondary containment for piping: _____
4. List the method of monitoring the secondary containment for piping: _____
5. Are there incompatible materials within the same vault:
 _____ Yes _____ No
 If yes, how is separate secondary containment provided?

Note: If you have continuous monitoring equipment, you shall maintain copies of all service and maintenance work. Such reports shall be made available for review on site, and shall be submitted to the fire prevention bureau upon request.

Attach additional sheets as necessary.

SECTION IV: WASTE DISPOSAL

_____ Discharge to the Sanitary _____ Pretreatment
 Sewer — Wastes: _____ Wastes: _____

_____ Licensed Waste Hauler _____ Recycle
 Wastes: _____ Wastes: _____

_____ Other
 Describe Method: _____
 Wastes: _____

_____ No Waste

FIGURE A-H-1 — (Continued)
SECTION V: RECORD KEEPING

Description of our inspection program: _____

_____ We will use the attached sample forms in our inspection program.

_____ We will not use the sample forms. We have attached a copy of our own forms.

SECTION VI: EMERGENCY RESPONSE PLAN

1. In the event of an emergency, the following shall be notified:

A. On-site Responders:

Name	Title	Phone
_____	_____	_____
_____	_____	_____

B. Method of Notification to Responder:

_____ Automatic Alarm

_____ Phone

_____ Manual Alarm

_____ Verbal

_____ Other: _____

C. Agency Phone Number

Fire Department:

State Office of Emergency:

Services:

Other:

2. Designated Local Emergency Medical Facility:

Name	Address	Phone (24 hours)
_____	_____	_____

3. Mitigation Equipment:

A. Monitoring Devices:

_____ Toxic or flammable gas detection

_____ Fluid detection

_____ Other: _____

B. Spill Containment:

_____ Absorbants _____ Other: _____

C. Spill Control and Treatment:

_____ Vapor Scrubber

_____ Mechanical Ventilation

_____ Pumps/vacuums

_____ Secondary Containment

_____ Neutralizer

_____ Other: _____

4. Evacuation:

_____ Immediate area evacuation routes posted

_____ Entire building evacuation procedures developed

_____ Assembly areas preplanned

_____ Evacuation maps posted

_____ Other: _____

5. Supplemental hazardous materials emergency response plan on site.

Location: _____

Responsible Person: _____

Phone: _____

SECTION VII: EMERGENCY-RESPONSE TRAINING PLAN

1. Person responsible for the emergency-response training plan:
Name Title Phone

2. Training Requirements:

A. All employees trained in the following as indicated:

- _____ Procedures for internal alarm/notification
- _____ Procedures for notification of external emergency-response organization
- _____ Location and content of the emergency-response plan

B. Chemical handlers are trained in the following as indicated:

- _____ Safe methods for handling and storage of hazardous materials
- _____ Proper use of personal protective equipment
- _____ Locations and proper use of fire- and spill-control equipment
- _____ Specific hazards of each chemical to which they may be exposed

C. Emergency-response team members are trained in the following:

- _____ Procedures for shutdown of operations
- _____ Procedures for using, maintaining and replacing facility emergency and monitoring equipment

3. The following records are maintained for all employees:

- _____ Verification that training was completed by the employee
- _____ Description of the type and amount of introductory and continuing training
- _____ Documentation on and description of emergency-response drills conducted at the facility

4. A more comprehensive and detailed emergency-response training plan is maintained on site.

Location: _____
Responsible Person: _____
Phone: _____

Reason: To provide a form for Hazardous Materials Management Plans and Hazardous Materials Inventory Statements in order to encourage uniformity throughout the country on what information to submit and how to submit it.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: If this code change is approved, the content will be revised editorially to comply with code appendix style conventions.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will lend uniformity to hazardous materials information collection efforts.

Assembly Action:

None

Final Hearing Results

F217-06/07

AS

Code Change No: F218-06/07

Original Proposal

Section: IBC [F] 307.1

Proponent: Gregory R. Keith, Professional heuristic Development, representing the Boeing Company

Revise as follows:

[F] 307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in Tables 307.1(1) and 307.1(2) per control areas as constructed and located as required in Section 414. Hazardous occupancies ~~uses~~ are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*.

Exceptions: The following shall not be classified ~~as in~~ Group H, but shall be classified as in the occupancy that they most nearly resemble.

- ~~1.~~ ~~Buildings and structures that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.1(1) and 307.1(2), provided that such buildings are maintained in accordance with the *International Fire Code*.~~
- ~~2.~~ ~~Buildings utilizing control areas in accordance with Section 414.2 that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.1(1) and 307.1(2).~~
3. 1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.
4. 2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.
5. 3. Closed piping containing flammable or combustible liquids or gases utilized for the operation of Machinery or equipment.
6. 4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140° (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers or 1-hour horizontal assemblies or both.
7. 5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
8. 6. Liquor stores and distributors without bulk storage.
9. 7. Refrigeration systems.
10. 8. The storage or utilization of materials for agricultural purposes on the premises.
11. 9. Stationary batteries utilized for facility emergency power, uninterrupted power supply or Telecommunication facilities, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the *International Mechanical Code*.
12. 10. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
13. 11. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.
14. 12. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous Materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 414.2.5.
15. 13. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.

Reason: Section 307.1 was modified in the 2006 Edition of the International Building Code. In an attempt to clarify the provisions of the code, one key point was missed. The appropriate and necessary reference to Tables 307.1(1) and 307.1(2) was removed from the enabling text. It is generally expected that one would find the technical charging requirement for Tables 307.1 in Section 307.1. The concept of maximum allowable quantities of hazardous materials based on Tables 307.1(1) and 307.1(2) is absolutely fundamental to the proper classification of Group H occupancies. This proper legal reference should be established in the charging text. It is noted that the reference to the tables first occurs in

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Exception 1. Exceptions represent exceptions to the rule. What now occurs in Exception 1, is the rule. Accordingly, it is proposed to reintroduce the proper cross reference to Tables 307.1(1) and 307.1(2) into Section 307.1. Having done this, it renders Exception 1 as redundant and moot. Also, Exception 1 contains an IFC maintenance provision as a condition of classification as a non-Group H occupancy. Is this to say that buildings not maintained in accordance with the *International Fire Code* must be classified as Group H occupancies? This represents a potentially unenforceable provision. Additionally, Exception 2 is redundant as the control area concept is already addressed in Section 307.1. Approval of this proposal will clarify the code and increase uniformity in the proper classification of Group H occupancies.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal adds a needed reference to restore clarity to the text in referencing the appropriate tables and deletes redundant text.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jeffrey Shapiro, PE, FSFPE, International Code Consultants, representing The Chlorine Institute, requests Approval as Modified by this public comment.

Modify proposal as follows:

[F] 307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in ~~Tables 307.1(1) and 307.1(2) per control areas complying with Section 414, as based on the maximum allowable quantity limits for control areas set forth in Tables 307.1(1) and 307.1(2) constructed and located as required in Section 414.~~ Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This public comment provides an editorial clean-up of the change made by this proposal to ensure that the section cannot be read to suggest that only a single control area is permitted, which was possible with the original wording.

Final Hearing Results

F218-06/07

AMPC1

Code Change No: F223-06/07

Original Proposal

Section: IBC [F] 414.1.3

Proponent: Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

Revise as follows:

[F] 414.1.3 Information required. The hazardous material(s) to be used or stored shall be submitted with the maximum amount expected to be present for each classification of physical or health hazard as indicated in Tables 307.1(1) and 307.1(2). The submittal shall include a description of how the material will be used or stored. ~~Separate~~

~~floor plans shall be submitted for~~ For buildings and structures with an occupancy in Group H, separate floor plans shall be submitted identifying the locations of anticipated contents and processes so as to reflect the nature of each occupied portion of every building and structure. A report identifying hazardous materials including, but not limited to, materials representing hazards that are classified in Group H to be stored or used, shall be submitted and the methods of protection from such hazards shall be indicated on the construction documents. The opinion and report shall be prepared by a qualified person, firm or corporation approved by the building official and shall be provided without charge to the enforcing agency.

Reason: Applying Section 307.1 requires that the code official know what classes and total amounts of hazardous materials in each class are to be present at any one time. Sections 307.1.1, 414.1.1 and 414.1.2 make it clear that hazardous materials in any quantity must comply with Section 414 and the *International Fire Code*. This language would indicate that the intent of the code is that the code official is entitled to have a listing of materials supplied for review against code requirements. However, the existing language found at [F] 414.1.3 limits the submission of additional information concerning the hazardous materials to Group H occupancies only.

The first problem with the existing language is that the code official needs information on the hazardous materials submitted to make a determination of the H Group, not after the determination is made. The second problem is that regardless of the Group H designation the code official needs to know what materials are to be present to apply Section 414 of the IBC and the appropriate chapters of the International Fire Code.

This proposal clarifies the need for a submittal of information concerning what hazardous materials will be present including maximum amounts to be provided for each hazard classification as referenced in Tables 307.1(1) and 307.1(2). It includes that a description of how the materials will be used or stored to be submitted to assist in identifying what hazards may be created by the handling or use of the material. This will assist the code official in making a proper determination of whether or not an H Group is involved and will provide needed information for applying Section 414 and appropriate Chapters of the International Fire Code whenever hazardous materials are present. It also clarifies that the submitter shall do the analysis necessary to provide a classification breakdown with total amounts in each class as compared to just submitting a listing of materials and leaving the code official the job of totaling up the amount in each class.

If the determination of a Group H is made the more extensive requirements for separate floor plans and a report prepared by a qualified person, firm or corporation would continue to apply unchanged other than an editorial revision to the language.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal provides clarification regarding the submittal of hazardous material information.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jeffrey Shapiro, PE, FSFPE, International Code Consultants, representing the Chlorine Institute, requests Approval as Modified by this public comment.

Modify proposal as follows:

~~[F] 414.1.3 Information required. The hazardous material(s) to be used or stored shall be submitted with the maximum amount expected to be present for each classification of physical or health hazard as indicated in Tables 307.1(1) and 307.1(2). The submittal shall include a description of how the material will be used or stored. For buildings and structures with an occupancy in Group H, separate floor plans shall be submitted identifying the locations of anticipated contents and processes so as to reflect the nature of each occupied portion of every building and structure. A report shall be submitted to the code official identifying the maximum expected quantities of hazardous materials to be stored, used in a closed system and used in an open system, and subdivided to separately address hazardous materials classification categories based on Tables 307.1(1) and 307.1(2), including, but not limited to, materials representing hazards that are classified in Group H to be stored or used, shall be submitted and~~ The methods of protection from such hazards, including but not limited to control areas, fire protection systems and Group H occupancies shall be indicated in the report and on the construction documents. The opinion and report shall be prepared by a qualified person, firm or corporation approved by the building official and shall be provided without charge to the enforcing agency.

Commenter's Reason: The approved change, which involved adding a new first sentence to this section, created overlap and inconsistency between the beginning and the end of the paragraph. The revisions maintain and better execute the intent of the proponent, while eliminating inconsistencies.

Final Hearing Results

F223-06/07

AMPC1

Code Change No: **F224-06/07**

Original Proposal

Sections: IBC [F] 415.3.2, [F] 415.2, [F] 307.2

Proponent: Gregory R. Keith, Professional heuristic Development, representing the Boeing Company

1. Revise as follows:

[F] 415.3.2 Group H-1 and H-2 or H-3 detached buildings. The storage of hazardous materials in excess of those amounts listed in Table 415.3.2 shall be in accordance with the provisions of Section 415.5. Where a detached building is required by Table 415.3.2, there are no requirements for wall and opening protection based on fire separation distance.

2. Delete without substitution:

[F] 307.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

~~**DETACHED BUILDING.** A separate single-story building, without a basement or crawl space, used for the storage or use of hazardous materials and located an approved distance from all structures.~~

3. Add new text as follows:

[F] 415.2 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in the code, have the meanings shown herein.

DETACHED BUILDING. A separate single-story building, without a basement or crawl space, used for the storage or use of hazardous materials and located an approved distance from all structures.

Reason: Table 415.3.2 currently is not formally enabled by the text in Section 415.3.2. This proposal corrects this circumstance. Technical requirements in tables are generally legally established by proper charging language in the corresponding text sections in order to assist users in the proper determination of such requirements. Editorial convention, however, is to title a table based on that section where the term first appears in the code. In this instance, Section 415.5 provides the root requirement for detached buildings and enables Table 415.3.2. The proposed included cross reference will assist users in ascertaining those additional schematic requirements located in Section 415.5. Additionally, the definition of “detached building” has been relocated from Chapter 3 to Chapter 4. In this proper location, it can support applicable technical requirements. Approval of this proposal will clarify the code and increase uniformity in the proper determination of detached building requirements.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal does not include a reference to Section [F] 415.4, which also applies to Group H-1.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Gregory R. Keith, Professional heuristic Development, representing the Boeing Company, requests Approval as Modified by this public comment.

Modify proposal as follows:

[F] 415.3.2 Group H-1 and H-2 or H-3 detached buildings. The storage of hazardous materials in excess of those amounts listed in Table 415.3.2 shall be in accordance with the applicable provisions of Sections 415.4 and 415.5. Where a detached building is required by Table 415.3.2, there are no requirements for wall and opening protection based on fire separation distance.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Table 415.3.2 currently is not formally enabled by the text in Section 415.3.2. This proposal corrects this oversight. It was pointed out during committee discussion in Orlando, that as written, one could interpret the provision as neglecting certain Group H-1 requirements. The proposal has been modified to address that concern.

Technical requirements in tables should be legally established by proper charging language in the text sections. Additionally, the definition of "detached building" has been relocated from Chapter 3 to Chapter 4. In this proper location, it can support applicable technical requirements. Approval of this proposal will clarify the code and increase uniformity in the proper determination of detached building requirements.

Final Hearing Results

F224-06/07

AMPC1

Code Change No: F225-06/07

Original Proposal

Section: IBC [F] 416.4 (New)

Proponent: Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

Add new text as follows:

[F] 416.4 Spray booths. Spray booths shall be designed, constructed and operated in accordance with the International Fire Code.

(Renumber subsequent sections)

Reason: Section 416 applies to the construction, installation and use of buildings and structures for the application of flammable finishes. Existing language provides limited information for spray rooms, Section 416.2, and spraying spaces, Section 416.3, leading one to believe there are no such requirements for spray booths. The proposed language simply places a pointer to the International Fire Code for the specifics of designing, constructing or operating spray booths and makes it clear that the intent of Section 416 includes spray booths.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal clarifies that the intent of Section [F] 416 is to be applicable to paint spray booths as well as spray rooms and spray space.

Assembly Action:

None

Final Hearing Results

F225-06/07

AS

Code Change No: **F228-06/07**

Original Proposal

Sections: IEBC [F] 1406.4, [F] 1409 (New)

Proponent: Michael E. Dell'Orfano, South Metro Fire Rescue, representing ICC Code Correlation Committee

1. Delete without substitution:

~~[F] 1406.4 Water supply. Water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material accumulates.~~

2. Add new text as follows:

**[F] SECTION 1409
WATER SUPPLY FOR FIRE PROTECTION**

1409.1 When required. An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on the site.

Reason: During the 04/05 code change cycle, the ICC Code Correlation Committee was presented with Item No. CCC05-IEBC 3, which proposed to delete then-Section 1306.4 in order to be consistent with IFC Section 1413. However, in order to be consistent with the IFC, a new section must also be added in order to maintain requirements for water supplies during construction, as was done in IFC Section 1412.

Therefore, this proposal is intended to delete current IEBC Section 1406.4, which is not appropriate for the standpipe section, and add IEBC Section 1409 in order to address general water supply requirements during construction. This is consistent with the IFC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Based on the proponent's reason statement. The proposal will resolve previously encountered problems with interpretation of the IEBC on when water supplies must be in place.

Assembly Action:

None

Final Hearing Results

F228-06/07

AS

Code Change No: **F230-06/07**

Original Proposal

Section: IPC [F] 1202.1

Proponent: Cecil F. Hardee, Jr., County of Fairfax, Virginia, representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA) and the Virginia Building Code Officials Association (VBCOA)

Revise as follows:

[F] 1202.1 Nonflammable medical gases. Nonflammable medical gas systems, inhalation anesthetic systems and vacuum piping systems shall be designed and installed in accordance with NFPA 99C.

Exceptions:

1. This section shall not apply to portable systems or cylinder storage.
2. Vacuum system exhaust terminations shall comply with the *International Mechanical Code*.

Reason: The purpose is to clarify the requirements of exhaust from vacuum piping systems. IPC references IMC to determine the requirements for exhaust discharge from medical gas systems. IMC doesn't specifically regulate the design of the vacuum piping system. IMC 501.2 regulates the exhaust discharge and Section 501.1.1 gives the specific requirements for termination of exhaust outlets of required exhaust systems.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal clarifies the code by adding a word that completes the technical term "exhaust terminations".

Assembly Action:**None**

Final Hearing Results

F230-06/07

AS

Code Change No: F231-06/07

Original Proposal

Section: 2705.5.1.11

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

~~2705.2.2.4~~ **2705.1.11 Design.** Systems shall be suitable for the use intended and shall be designed by persons competent in such design. Controls shall be designed to prevent materials from entering or leaving the process or reaction system at other than the intended time, rate, or path. Where automatic controls are provided, they shall be designed to be fail safe.

Reason: This section currently applies only to closed hazardous materials systems. Open systems should also meet the requirements of being suitable for the intended use and being designed by competent persons to prevent the unintended release of hazardous materials. No cost increase is expected, because hazardous materials systems should already meet this standard, as they are required to be approved in section 2703.2.3.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: Based on the proponent's reason statement. The proposal properly relocates system design requirements so as to apply to both open and closed systems.

Assembly Action:**None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jeffrey Shapiro, PE, FSFPE, International Code Consultants, representing The Chlorine Institute, requests Approval as Modified by this public comment.

Modify proposal as follows:

2705.1.11 Design. Systems shall be suitable for the use intended and shall be designed by persons competent in such design. Controls shall be designed to prevent materials from entering or leaving the process or reaction system at other than the intended time, rate, or path. Where automatic safety controls are ~~provided~~ used to prevent a dangerous condition or reaction, they shall be designed to be fail safe.

Commenter's Reason: This is a simple clarification. There is no need for all automatic controls to be fail safe because many such controls have nothing to do with and no impact on safety. Only those controls that are intended to be part of the safety system were intended to be encompassed by this requirement.

Final Hearing Results

F231-06/07

AMPC1

Code Change No: F232-06/07

Original Proposal

Sections: IBC [F] 415.6.3.2, [F] 415.6.3.4, [F] 415.6.3.4.1, [F] 415.6.3.5.2

Proponent: Philip Brazil, P.E., Reid Middleton, Inc., representing himself

Revise as follows:

[F] 415.6.3.2 Construction. Liquefied petroleum gas-distribution facilities shall be constructed in accordance with Section 415.6.3.3 for separate buildings, Section 415.6.3.4 for attached buildings structures or Section 415.6.3.5 for rooms within buildings.

[F] 415.6.3.4 Attached buildings structures. Where liquefied petroleum gas-distribution facilities are located in an attached structure, the attached perimeter shall not exceed 50 percent of the perimeter of the space enclosed and the facility shall comply with Sections 415.6.3.3 and 415.6.3.4.1. Where the attached perimeter exceeds 50 percent, such facilities shall comply with Section 415.6.3.5.

[F] 415.6.3.4.1 Fire separation. Separation of the attached structures shall be provided by fire barriers having a fire-resistance rating of not less than 1 hour and shall not have openings. Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies that comply with Section ~~745~~ 706.7. Such fire barriers shall be designed to withstand a static pressure of at least 100 pounds per square foot (psf) (4788 Pa), except where the building to which the structure is attached is occupied by operations or processes having a similar hazard.

[F] 415.6.3.5 Rooms within buildings. Where liquefied petroleum gas-distribution facilities are located in rooms within buildings, such rooms shall be located in the first story above grade plane and shall have at least one exterior wall with sufficient exposed area to provide explosion venting as required in the *International Fire Code*. The building in which the room is located shall not have a basement or unventilated crawl space and the room shall comply with Sections 415.6.3.5.1 and 415.6.3.5.2.

[F] 415.6.3.5.2 Common construction. Walls and floor/ceiling assemblies common to the room and to the building within which the room is located shall be fire barriers with not less than a 1 hour fire-resistance rating and without openings. Common walls for rooms occupied only for storage of LP-gas are permitted to have ~~opening protectives~~ fire door assemblies complying with Section ~~745~~ 706.7. The walls and ceilings shall be designed to withstand a static pressure of at least 100 psf (4788 Pa).

Exception: Where the building, within which the room is located, is occupied by operations or processes having a similar hazard.

Reason: The purpose for this proposal is to correct several technical flaws in the provisions for liquefied petroleum gas-distribution facilities in attached structures and rooms within buildings. In Section 415.6.3.2 and the title of Section 415.6.3.4, "attached buildings" are changed to "attached structures" for consistency with use of the term "attached structures" in the provisions of Sections 415.6.3.4 and 415.6.3.4.1, and to maintain the distinction between the building and the attached structure that is made in Section 415.6.3.4.1 (last sentence).

In Sections 415.6.3.4.1 and 415.6.3.5.2, the reference to Section 715 to 706.7 to establish that the general limitations in Section 706.7 for protected openings in fire barriers are applicable to fire barriers in liquefied petroleum gas-distribution facilities. Without the change, a code user may conclude that the limitations in liquefied petroleum gas-distribution facilities are less than are generally required for fire barriers.

The Section 415.6.3.5.2, "opening protectives" are changed to "fire door assemblies" for consistency with the same requirement in Section 415.6.3.4.1 for attached structures. Otherwise, fire window assemblies and other forms of opening protection would be permitted.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

[F] 415.6.3.4.1 Fire separation. ~~Separation of the a~~ Attached structures shall be ~~provided~~ separated from the building by fire barriers having a fire-resistance rating of not less than 1 hour and shall not have openings. Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies that comply with Section 706.7. Such fire barriers shall be designed to withstand a static pressure of at least 100 pounds per square foot (psf) (4788 Pa), except where the building to which the structure is attached is occupied by operations or processes having a similar hazard.

(Portions of proposal not shown remain unchanged)

Committee Reason: Based on the proponent's reason statement. The proposal, with the modification, makes editorial refinements in the style of the code to make the LP-gas facility construction provisions clearer to the code user.

Assembly Action:

None

Final Hearing Results

F232-06/07

AM

2006 INTERNATIONAL BUILDING CODE DOCUMENTATION

FIRE SAFETY

Code Change No: **FS7-06/07**

Original Proposal

Sections: 702.1 (IFC 902.1)

Proponent: Greg Rogers, Kitsap Fire District 7, representing ICC Joint Fire Service Review Committee

Revise definition as follows:

FIRE AREA. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or fire-resistance-rated horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor above.

Reason: Sprinkler and fire alarm requirements in Chapter 9 of the IBC and IFC are based on the square footage or occupant load of a fire area. It is not clear from the definition of a fire area that building areas without surrounding walls are included in the fire area. This concept is clear in the definition of building area found in IBC 502.1, "Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above". This was confirmed by IFC Interpretation No. 25-05, dated 09-12-05.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Although this issue is not clear in the existing code, placing this requirement within the definition is not the best solution and may be overlooked. The testimony discussed items such as picnic shelters, flea-markets and other items which don't have walls around them that would be affected by this requirement and now need sprinklers or alarms due to exceeding the fire area. Another example given was a canopy which was 44 feet tall and open on all sides. Items which are open and unenclosed do not create the same fire hazard and should not be regulated by the same requirements that apply to enclosed buildings.

Assembly Action:

Approved as Submitted

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful and public comments were submitted.

Public Comment 1:

Edmund Domian, West Valley City, Utah, requests Approval as Submitted.

Commenter's Reason: The real issue of this code change is not what meets the definition of "building" but what warrants a need for compartmentation. Many big box warehouse-type stores have a large attached open yard of combustible products for sale, which often meet the definition of high piled combustible storage. This "open yard" has a metal or fabric canopy overhead; the public are trapped in this area within a fenced perimeter. The fire load in these "open yards" can be substantial. Occupants must often re-enter the main building from this enclosed "open yard" to egress the building in an emergency. Such areas should be included in the calculations of any defined "FIRE AREA."

Final Hearing Results

FS7-06/07

AS

Code Change No: **FS11-06/07**

Original Proposal

Sections: 402.10, 402.15.4, 406.5.2, 406.6.6.3 and 410.3.5.3, 703.4.2, 719.1, 719.4, 802.1, 803.1, 803.5, 803.6.1, 803.6.2, 1407.10.1, 2603.3, 2603.5.4, 2606.4, Chapter 35 (New) D102.2.8, D106; IFC 804.2.4, 803.5.1, [F] 806.5, [F] 2606.2.4, Chapter 45; IRC R314.3, R314.6, R315.3, R315.4, R316.1, R316.2, M1601.2.1, Chapter 43; IWUIC 202, Chapter 7

Proponent: Bob Eugene, Underwriters Laboratories Inc.

THIS PROPOSAL IS ON THE AGENDA OF THE IBC FIRE SAFETY, GENERAL AND STRUCTURAL, IFC, IRC BUILDING/ENERGY, MECHANICAL AND WUIC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC FIRE SAFETY

1. Revise as follows:

703.4.2 Composite materials. Materials having a structural base of noncombustible material as determined in accordance with Section 703.4.1 with a surfacing not more than 0.125 inch (3.18 mm) thick that has a flame spread index not greater than 50 when tested in accordance with ASTM E 84 or UL 723 shall be acceptable as noncombustible materials.

719.1 General. Insulating materials, including facings such as vapor retarders and vapor-permeable membranes, similar coverings, and all layers of single and multilayer reflective foil insulations, shall comply with the requirements of this section. Where a flame spread index or a smoke-developed index is specified in this section, such index shall be determined in accordance with ASTM E 84 or UL 723. Any material that is subject to an increase in flame spread index or smoke-developed index beyond the limits herein established through the effects of age, moisture, or other atmospheric conditions shall not be permitted.

Exceptions:

1. Fiberboard insulation shall comply with Chapter 23.
2. Foam plastic insulation shall comply with Chapter 26.
3. Duct and pipe insulation and duct and pipe coverings and linings in plenums shall comply with the *International Mechanical Code*.

719.4 Loose-fill insulation. Loose-fill insulation materials that cannot be mounted in the ASTM E 84 or UL 723 apparatus without a screen or artificial supports shall comply with the flame spread and smoke-developed limits of Sections 719.2 and 719.3 when tested in accordance with CAN/ULC S102.2.

Exception: Cellulose loose-fill insulation shall not be required to comply with the flame spread index requirement of CAN/ULC S102.2, provided such insulation complies with the requirements of Section 719.6.

802.1 FLAME SPREAD INDEX. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E 84 or UL 723.

803.1 General. Interior wall and ceiling finishes shall be classified in accordance with ASTM E 84 or UL 723. Such interior finish materials shall be grouped in the following classes in accordance with their flame spread and smoke-developed indexes.

- Class A: Flame spread 0-25; smoke-developed 0-450.
- Class B: Flame spread 26-75; smoke-developed 0-450.
- Class C: Flame spread 76-200; smoke-developed 0-450.

Exception: Materials, other than textiles, tested in accordance with Section 803.2.

803.5 Interior finish requirements based on group. Interior wall and ceiling finish shall have a flame spread index not greater than that specified in Table 803.5 for the group and location designated. Interior wall and ceiling finish materials, other than textiles, tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.2.1, shall be permitted to be used where a Class A classification in accordance with ASTM E 84 or UL 723 is required.

803.6.1 Surface burning characteristic test. Textile wall and ceiling coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723 and be protected by automatic sprinklers installed in accordance with Section 903.3.1.1 or 903.3.1.2.

1407.9 Surface-burning characteristics. Unless otherwise specified, MCM shall have a flame spread index of 75 or less and a smoke-developed index of 450 or less when tested as an assembly in the maximum thickness intended for use in accordance with ASTM E 84 or UL 723.

1407.10.1 Surface-burning characteristics. MCM shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450 when tested as an assembly in the maximum thickness intended for use in accordance with ASTM E 84 or UL 723.

2603.3 Surface-burning characteristics. Unless otherwise indicated in this section, foam plastic insulation and foam plastic cores of manufactured assemblies shall have a flame spread index of not more than 75 and a smoke-developed index of not more than 450 where tested in the maximum thickness intended for use in accordance with ASTM E 84 or UL 723. Loose fill-type foam plastic insulation shall be tested as board stock for the flame spread index and smoke-developed index.

Exceptions:

1. Smoke-developed index for interior trim as provided for in Section 2604.2.
2. In cold storage buildings, ice plants, food plants, food processing rooms and similar areas, foam plastic insulation where tested in a thickness of 4 inches (102 mm) shall be permitted in a thickness up to 10 inches (254 mm) where the building is equipped throughout with an automatic fire sprinkler system in accordance with Section 903.3.1.1. The approved automatic sprinkler system shall be provided in both the room and that part of the building in which the room is located.
3. Foam plastic insulation that is a part of a Class A, B or C roof-covering assembly provided the assembly with the foam plastic insulation satisfactorily passes FM 4450 or UL 1256. The smoke-developed index shall not be limited for roof applications.
4. Foam plastic insulation greater than 4 inches (102 mm) in thickness shall have a maximum flame spread index of 75 and a smoke-developed index of 450 where tested at a minimum thickness of 4 inches (102 mm), provided the end use is approved in accordance with Section 2603.9 using the thickness and density intended for use.
5. Flame spread and smoke-developed indexes for foam plastic interior signs in covered mall buildings provided the signs comply with Section 402.15.

2603.4.1.13 Type V construction. Foam plastic spray applied to a sill plate and header of Type V construction is subject to all of the following:

1. The maximum thickness of the foam plastic shall be 3¼ inches (82.6 mm).
2. The density of the foam plastic shall be in the range of 1.5 to 2.0 pcf (24 to 32 kg/m³).
3. The foam plastic shall have a flame spread index of 25 or less and an accompanying smoke-developed index of 450 or less when tested in accordance with ASTM E 84 or UL 723.

2603.5.4 Flame spread and smoke-developed indexes. Foam plastic insulation, exterior coatings and facings shall be tested separately in the thickness intended for use, but not to exceed 4 inches (102 mm), and shall each have a flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E 84 or UL 723.

Exception: Prefabricated or factory-manufactured panels having minimum 0.020-inch (0.51 mm) aluminum facings and a total thickness of 0.25 inch (6.4 mm) or less are permitted to be tested as an assembly where the foam plastic core is not exposed in the course of construction.

2606.4 Specifications. Light-transmitting plastics, including thermoplastic, thermosetting or reinforced thermosetting plastic material, shall have a self-ignition temperature of 650°F (343°C) or greater where tested in accordance with ASTM D 1929; a smoke-developed index not greater than 450 where tested in the manner intended for use in accordance with ASTM E 84 or UL 723, or not greater than 75 where tested in the thickness intended for use in accordance with ASTM D 2843 and shall conform to one of the following combustibility classifications:

Class CC1: Plastic materials that have a burning extent of 1 inch (25 mm) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D 635,

Class CC2: Plastic materials that have a burning rate of 2.5 inches per minute (1.06 mm/s) or less where tested at a nominal thickness of 0.060 inch (1.5 mm), or in the thickness intended for use, in accordance with ASTM D 635.

D102.2.8 Permanent canopies. Permanent canopies are permitted to extend over adjacent open spaces provided:

1. The canopy and its supports shall be of noncombustible material, fire-retardant-treated wood, Type IV construction or of 1-hour fire-resistance-rated construction.

Exception: Any textile covering for the canopy shall meet the fire propagation performance criteria of NFPA 701 after both accelerated water leaching and accelerating weathering.

2. Any canopy covering, other than textiles, shall have a flame spread index not greater than 25 when tested in accordance with ASTM E 84 or UL 723 in the form intended for use.
3. The canopy shall have at least one long side open.
4. The maximum horizontal width of the canopy shall not exceed 15 feet (4572 mm).
5. The fire resistance of exterior walls shall not be reduced.

2. Add new standard to Chapter 35 and Appendix D as follows:

UL
723-03 Standard for Test for Surface Burning Characteristics of Building Materials, with Revisions through May 2005

SECTION D106 REFERENCED STANDARDS

ASTM
E 84-04 Test Method for Surface Burning Characteristics of Building Materials

PART II – IBC GENERAL

1. Revise as follows:

402.10 Kiosks. Kiosks and similar structures (temporary or permanent) shall meet the following requirements:

1. Combustible kiosks or other structures shall not be located within the mall unless constructed of any of the following materials:
 - 1.1. Fire-retardant-treated wood complying with Section 2303.2.
 - 1.2. Foam plastics having a maximum heat release rate not greater than 100kW (105 Btu/h) when tested in accordance with the exhibit booth protocol in UL 1975.
 - 1.3. Aluminum composite material (ACM) having a flame spread index of not more than 25 and a smoke-developed index of not more than 450 when tested as an assembly in the maximum thickness intended for use in accordance with ASTM E 84 or UL 723.
2. Kiosks or similar structures located within the mall shall be provided with approved fire suppression and detection devices.
3. The minimum horizontal separation between kiosks or groupings thereof and other structures within the mall shall be 20 feet (6096 mm).
4. Each kiosk or similar structure or groupings thereof shall have a maximum area of 300 square feet (28 m²).

402.15.4 Plastics other than foam plastics. Plastics other than foam plastics used in signs shall be light-transmitting plastics complying with Section 2606.4 or shall have a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D 1929, and a flame spread index not greater than 75 and smoke-developed index not greater than 450 when tested in the manner intended for use in accordance with ASTM E 84 or UL 723 or meet the acceptance criteria of Section 803.2.1 when tested in accordance with NFPA 286.

406.5.2 Canopies. Canopies under which fuels are dispensed shall have a clear, unobstructed height of not less than 13 feet 6 inches (4115 mm) to the lowest projecting element in the vehicle drive-through area. Canopies and their supports over pumps shall be of noncombustible materials, fire-retardant-treated wood complying with Chapter 23, wood of Type IV sizes or of construction providing 1-hour fire resistance. Combustible materials used in or on a canopy shall comply with one of the following:

1. Shielded from the pumps by a noncombustible element of the canopy, or wood of Type IV sizes;
2. Plastics covered by aluminum facing having a minimum thickness of 0.010 inch (0.30 mm) or corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41 mm). The plastic shall have a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in the form intended for use in accordance with ASTM E 84 or UL 723 and a self-ignition temperature of 650 °F (343°C) or greater when tested in accordance with ASTM D 1929; or
3. Panels constructed of light-transmitting plastic materials shall be permitted to be installed in canopies erected over motor vehicle fuel-dispensing station fuel dispensers, provided the panels are located at least 10 feet (3048 mm) from any building on the same lot and face yards or streets not less than 40 feet (12 192 mm) in width on the other sides. The aggregate areas of plastics shall not exceed 1,000 square feet (93 m²). The maximum area of any individual panel shall not exceed 100 square feet (9.3 m²).

410.3.5.3 Smoke test. Curtain fabrics shall have a smoke-developed rating of 25 or less when tested in accordance with ASTM E 84 or UL 723.

3105.4 Canopy materials. Canopies shall be constructed of a rigid framework with an approved covering that meets the fire propagation performance criteria of NFPA 701 or has a flame spread index not greater than 25 when tested in accordance with ASTM E 84 or UL 723.

2. Add new standard to Chapter 35 as follows:

UL

723-03 Standard for Test for Surface Burning Characteristics of Building Materials, with Revisions through May 2005

PART III – IBC STRUCTURAL

Revise as follows:

2303.2 Fire-retardant-treated wood. Fire-retardant-treated wood is any wood product which, when impregnated with chemicals by a pressure process or other means during manufacture, shall have, when tested in accordance with ASTM E 84 or UL 723, a listed flame spread index of 25 or less and show no evidence of significant progressive combustion when the test is continued for an additional 20-minute period. In addition, the flame front shall not progress more than 10.5 feet (3200 mm) beyond the centerline of the burners at any time during the test.

PART IV – IFC

1. Revise as follows:

803.5.1 Textile wall coverings. Textile wall coverings shall comply with one of the following:

1. The coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723 and be protected by automatic sprinklers installed in accordance with Section 903.3.1.1 or 903.3.1.2,
2. The covering shall meet the criteria of Section 803.5.1.1 or 803.5.1.2 when tested in the manner intended for use in accordance with NFPA 265 using the product-mounting system, including adhesive, of actual use, or
3. The covering shall meet the criteria of Section 803.1.2.1 when tested in accordance with NFPA 286 using the product-mounting system, including adhesive, of actual use.

804.2.4 Flame spread. The flame spread rating shall not exceed 75 where tested in accordance with ASTM E 84 or UL 723. The smoke-developed index shall not be limited.

[F] 806.5 Interior trim. Material, other than foam plastic used as interior trim shall have a minimum Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the aggregate wall or ceiling area in which it is located.

[F] 2604.2.4 Flame spread. The flame spread index shall not exceed 75 where tested in accordance with ASTM E 84 or UL 723. The smoke-developed index shall not be limited.

2. Add new standard to Chapter 45 as follows:

UL 723-03 Standard for Test for Surface Burning Characteristics of Building Materials, with Revisions through May 2005

PART V – IRC BUILDING/ENERGY

1. Revise as follows:

R314.3 Surface burning characteristics. Unless otherwise allowed in Section R314.5 or R314.6, all foam plastic or foam plastic cores used as a component in manufactured assemblies used in building construction shall have a flame spread index of not more than 75 and shall have a smoke-developed index of not more than 450 when tested in the maximum thickness intended for use in accordance with ASTM E84 or UL 723. Loose-fill type foam plastic insulation shall be tested as board stock for the flame spread index and smoke-developed index.

Exception: Foam plastic insulation more than 4 inches thick shall have a maximum flame spread index of 75 and a smoke-developed index of 450 where tested at a minimum thickness of 4 inches, provided the end use is approved in accordance with Section R314.6 using the thickness and density intended for use.

R314.6 Specific approval. Foam plastic not meeting the requirements of Sections R314.3 through R314.5 shall be specifically approved on the basis of one of the following approved tests: NFPA 286 with the acceptance criteria of Section R315.4, FM4880, UL 723, UL1040 or UL1715, or fire tests related to actual end-use configurations. The specific approval shall be based on the actual end use configuration and shall be performed on the finished foam plastic assembly in the maximum thickness intended for use. Assemblies tested shall include seams, joints and other typical details used in the installation of the assembly and shall be tested in the manner intended for use.

R315.3 Testing. Tests shall be made in accordance with ASTM E 84 or UL 723.

R315.4 Alternate test method. As an alternate to having a flame-spread classification of not greater than 200 and a smoke developed index of not greater than 450 when tested in accordance with ASTM E 84 or UL 723, wall and ceiling finishes, other than textiles, shall be permitted to be tested in accordance with NFPA 286. Materials tested in accordance with NFPA 286 shall meet the following criteria:

During the 40 kW exposure, the interior finish shall comply with Item 1. During the 160 kW exposure, the interior finish shall comply with Item 2. During the entire test, the interior finish shall comply with Item 3.

1. During the 40 kW exposure, flames shall not spread to the ceiling.
2. During the 160 kW exposure, the interior finish shall comply with the following:
 - 2.1. Flame shall not spread to the outer extremity of the sample on any wall or ceiling.
 - 2.2. Flashover, as defined in NFPA 286, shall not occur.
3. The total smoke released throughout the NFPA 286 test shall not exceed 1,000 m².

R316.1 Insulation. Insulation materials, including facings, such as vapor retarders or vapor permeable membranes installed within floor-ceiling assemblies, roof-ceiling assemblies, wall assemblies, crawl spaces and attics shall have a flame-spread index not to exceed 25 with an accompanying smoke-developed index not to exceed 450 when tested in accordance with ASTM E 84 or UL 723.

Exceptions:

1. When such materials are installed in concealed spaces, the flame-spread and smoke-developed limitations do not apply to the facings, provided that the facing is installed in substantial contact with the unexposed surface of the ceiling, floor or wall finish.
2. Cellulose loose-fill insulation, which is not spray applied, complying with the requirements of Section R316.3, shall only be required to meet the smoke-developed index of not more than 450.

R316.2 Loose-fill insulation. Loose-fill insulation materials that cannot be mounted in the ASTM E 84 or UL 723 apparatus without a screen or artificial supports shall comply with the flame spread and smoke-developed limits of Sections R316.1 and R316.4 when tested in accordance with CAN/ULC S102.2.

Exception: Cellulose loose-fill insulation shall not be required to comply with the flame spread index requirement of CAN/ULC S102.2, provided such insulation complies with the requirements of Section R316.3.

2. Add standard to Chapter 43 as follows:

UL
723-03 Standard for Test for Surface Burning Characteristics of Building Materials, with Revisions through May 2005

PART VI – IRC MECHANICAL**Revise as follows:**

M1601.2.1 Duct insulation materials. Duct insulation materials shall conform to the following requirements:

1. Duct coverings and linings, including adhesives where used, shall have a flame spread index not higher than 25, and a smoke-developed index not over 50 when tested in accordance with ASTM E 84 or UL 723, using the specimen preparation and mounting procedures of ASTM E 2231.
2. Duct coverings and linings shall not flame, glow, smolder or smoke when tested in accordance with ASTM C 411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C).
3. External duct insulation and factory-insulated flexible ducts shall be legibly printed or identified at intervals not longer than 36 inches (914 mm) with the name of the manufacturer; the thermal resistance *R*-value at the specified installed thickness; and the flame spread and smoke-developed indexes of the composite materials. All duct insulation product *R*-values shall be based on insulation only, excluding air films, vapor retarders or other duct components, and shall be based on tested *C*-values at 75°F (24°C) mean temperature at the installed thickness, in accordance with recognized industry procedures. The installed thickness of duct insulation used to determine its *R*-value shall be determined as follows:
 - 3.1. For duct board, duct liner and factory-made rigid ducts not normally subjected to compression, the nominal insulation thickness shall be used.
 - 3.2. For ductwrap, the installed thickness shall be assumed to be 75 percent (25-percent compression) of nominal thickness.
 - 3.3. For factory-made flexible air ducts, The installed thickness shall be determined by dividing the difference between the actual outside diameter and nominal inside diameter by two.

PART VII - WUIC**1. Revise as follows:****SECTION 202
DEFINITIONS**

NONCOMBUSTIBLE. As applied to building construction material means a material that, in the form in which it is used, is either one of the following:

1. Material of which no part will ignite and burn when subjected to fire. Any material conforming to ASTM E 136 shall be considered noncombustible within the meaning of this section.
2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over 1/8 inch (3.2 mm) thick, which has a flame spread rating of 50 or less. Flame spread rating as used herein refers to rating obtained according to tests conducted as specified in ASTM E 84 or UL 723.

“Noncombustible” does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to Item 1. No material shall be classed as noncombustible that is subject to increase in combustibility or flame spread rating, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition.

2. Add referenced standard to Chapter 7 as follows:**UL**

723-03 Standard for Test for Surface Burning Characteristics of Building Materials, with Revisions through May 2005

Reason: (IBC, IFC, IMC, IRC and IWUIC) Add a direct reference to UL 723 where ASTM E84 is referenced throughout the family of I-codes.

The purpose of this code change is to include reference to UL 723 as an alternate to ASTM E 84 throughout the family of I-codes. These two Standards describe the same test method. The specifications for the test apparatus and test procedure are identical between the two standards. As such, identical test results would be obtained from tests conducted using each of these methods. UL 723 is an ANSI approved standard.

The inclusion of this alternate test method would provide the authority having jurisdiction with the flexibility to accept listed and labeled products evaluated in accordance with ASTM E 84 or UL 723.

The purpose of the test is to determine the comparative burning characteristics of the material under test by evaluating the spread of flame over its surface and the density of the smoke developed when exposed to a test fire, and thus to establish a basis on which surface burning characteristics of different materials are compared.

Bibliography: UL 723

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Results of the review of the proposed standard will be posted on the ICC website by August 20, 2006.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was published in the “Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Referenced Standards” provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of staff, the standard did comply with ICC standards criteria

PART I – IBC FIRE SAFETY

Committee Action:

Approved as Submitted

Committee Reason: Similar to the action taken with both FS10 and FS8 above, the addition of the standard will provide added flexibility for both the designer and the building official. This action also coordinates with the action taken by the IFC and IBC Structural committees which have already met and approved this item.

Assembly Action:

None

PART II – IBC GENERAL

Committee Action:

Approved as Submitted

Committee Reason: The inclusion of UL 723 as an alternate and equivalent standard to E 119 was felt to be an appropriate addition to the code. This is also consistent with the actions taken on the other portions of this code change.

Assembly Action:

None

PART III – IBC STRUCTURAL

Committee Action:

Approved as Submitted

Committee Reason: The proposal clarifies fire-retardant treated wood requirements by adding an appropriate reference to a test standard.

Assembly Action:

None

PART IV – IFC

Committee Action:

Approved as Submitted

Committee Reason: Including a reference to UL 723 will provide the code official with greater flexibility in approving materials tested to either ASTM E84 or UL723, since both test standards are equivalent.

Assembly Action:

None

PART V – IRC

Committee Action:

Approved as Modified

Modify the proposal as follows:

R314.6 Specific approval. Foam plastic not meeting the requirements of Sections R314.3 through R314.5 shall be specifically approved on the basis of one of the following approved tests: NFPA 286 with the acceptance criteria of Section R315.4, FM4880, ~~UL 723~~, UL 1040 or UL 1715, or fire tests related to actual end-use configurations. The specific approval shall be based on the actual end use configuration and shall be performed on the finished foam plastic assembly in the maximum thickness intended for use. Assemblies tested shall include seams, joints and other typical details used in the installation of the assembly and shall be tested in the manner intended for use.

(Portions of proposal not shown remain unchanged)

Committee Reason: The new reference to UL 723 adds depth to the code and provides an alternative to ASTM E84. These two standards describe the same test method. The addition of this alternate test method provides the authority having jurisdiction with the flexibility to accept listed and labeled products evaluated under UL 723.

Section R314.6 was modified to remove the reference to UL723. The reference was not needed in this particular section of the IRC.

Assembly Action:

None

Final Hearing Results

FS11-06/07, Part I	AS
FS11-06/07, Part II	AS
FS11-06/07, Part III	AS
FS11-06/07, Part IV	AS
FS11-06/07, Part V	AM
FS11-06/07, Part VI	AS
FS11-06/07, Part VII	AS

Code Change No: FS37-06/07

Original Proposal

Sections: 402.4.6, 402.7.1, 403.2, [F]404.3, 410.5.1, 410.5.2, [F]415.6.1.2, [F]415.6.2.2, [F]415.6.3.4.1, [F]415.6.3.5.2, [F]415.7.1, [F]415.7.3, [F]415.8.2.2, 415.8.5.2.1, 415.8.5.2.2, [F]416.2, [F]418.4, [F]418.5, [F]418.6, 706.3.3, 706.3.9, Table 706.3.9, 707.11, 707.13.3, 707.13.4, 712.3, 901.7, 903.2, [F]909.11 (IMC 513.11 & IFC 909.11), 909.20.2, 909.20.6.1, [F]910.3.4, [F]910.4.4, 1021.3 (IFC [B] 1021.3), 1022.2 (IFC [B] 1022.2) 3006.4, 3104.5, 3410.6.16.1 (IEBC [B] 1301.6.16.1)

Errata: Replace the proposal shown in the monograph with the following:

Proponent: Philip Brazil, P.E, Reid Middleton, Inc., representing himself

PART I – IBC FIRE SAFETY

706.3.3 Exit passageway. The fire-resistance rating of the ~~separation between~~ fire barrier separating building areas ~~and from~~ an exit passageway shall comply with Section 1021.1.

706.3.9. Single-occupancy fire areas. The fire barriers or horizontal ~~assembly~~ assemblies, or both, separating a single occupancy into different fire areas shall have a fire-resistance rating of not less than that indicated in Table 706.3.9.

707.11 Enclosure at the bottom. Shafts that do not extend to the bottom of the building or structure shall comply with one of the following:

1. They shall be enclosed at the lowest level with construction of the same fire-resistance rating as the lowest floor through which the shaft passes, but not less than the rating required for the shaft enclosure;
2. They shall terminate in a room having a use related to the purpose of the shaft. The room shall be separated from the remainder of the building by a fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~having a~~ The fire-resistance rating and opening protectives shall be at least equal to the protection required for the shaft enclosure;
3. They shall be protected by approved fire dampers installed in accordance with their listing at the lowest floor level within the shaft enclosure.

Exceptions:

1. The fire-resistance-rated room separation is not required, provided there are no openings in or penetrations of the shaft enclosure to the interior of the building except at the bottom. The bottom of the shaft shall be closed off around the penetrating items with materials permitted by Section 717.3.1 for draftstopping, or the room shall be provided with an approved automatic fire suppression system.
2. A shaft enclosure containing a refuse chute or laundry chute shall not be used for any other purpose and shall terminate in a room protected in accordance with Section 707.13.4.
3. The fire-resistance-rated room separation and the protection at the bottom of the shaft are not required provided there are no combustibles in the shaft and there are no openings or other penetrations through the shaft enclosure to the interior of the building.

707.13.3 Refuse and laundry chute access rooms. Access openings for refuse and laundry chutes shall be located in rooms or compartments enclosed by a not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both ~~that has a fire-resistance rating of not less than 1 hour~~. Openings into the access rooms shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. Doors shall be self- or automatic closing upon the detection of smoke in accordance with Section 715.4.7.3.

707.13.4 Termination room. Refuse and laundry chutes shall discharge into an enclosed room separated from the remainder of the building by a not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both ~~that has a fire-resistance rating of not less than 1 hour~~. Openings into the termination room shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. Doors shall be self- or automatic closing upon the detection of smoke in accordance with Section 715.4.7.3. Refuse chutes shall not terminate in an incinerator room. Refuse and laundry rooms that are not provided with chutes need only comply with Table 508.2.

712.3 Fire-resistance-rated walls. Penetrations into or through fire walls, fire barriers ~~walls~~, smoke barrier walls, and fire partitions shall comply with Sections 712.3.1 through 712.3.4.

901.7 Fire areas. Where buildings, or portions thereof, are divided into fire areas so as not to exceed the limits established for requiring a fire protection system in accordance with this chapter, such fire areas shall be separated by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both having a fire-resistance rating of not less than that determined in accordance with Section 706.3.9.

[B] 909.20.2 Construction. The smokeproof enclosure shall be separated from the remainder of the building by not less than a 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~without~~ Openings are not permitted other than the required means of egress doors. The vestibule shall be separated from the stairway by not less than a 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The open exterior balcony shall be constructed in accordance with the fire-resistance-rating requirements for floor construction.

[B] 909.20.6.1 Ventilation systems. Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment and ductwork shall comply with one of the following:

1. Equipment and ductwork shall be located exterior to the building and directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.
2. Equipment and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.
3. Equipment and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

PART II – IBC GENERAL

Revise as follows:

402.4.6 Service areas fronting on exit passageways. Mechanical rooms, electrical rooms, building service areas and service elevators are permitted to open directly into exit passageways, provided the exit passageway is separated from such rooms with not less than 1-hour ~~fire-resistance-rated~~ fire barriers ~~and 1-hour opening protectives~~ constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-protection rating of openings in the fire barriers shall be 1 hour.

402.7.1 Attached garage. An attached garage for the storage of passenger vehicles having a capacity of not more than nine persons and open parking garages shall be considered as a separate building where it is separated from the covered mall building by a not less than 2-hour fire barriers ~~having a fire-resistance rating of at least 2 hours~~ constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Exception: Where an open parking garage or enclosed parking garage is separated from the covered mall building or anchor building a distance greater than 10 feet (3048 mm), the provisions of Table 602 shall apply. Pedestrian walkways and tunnels which attach the open parking garage or enclosed parking garage to the covered mall building or anchor building shall be constructed in accordance with Section 3104.

410.5.1 Separation from stage. ~~Where the stage height is greater than 50 feet (15 240 mm),~~ The stage shall be separated from dressing rooms, scene docks, property rooms, workshops, storerooms and compartments appurtenant to the stage and other parts of the building by a fire barriers ~~with not less than a 2-hour fire-resistance rating with approved opening protectives~~ constructed in accordance with Section 706 or horizontal assemblies ~~constructed in accordance with Section 711, or both.~~ The minimum fire-resistance rating shall be 2 hours for stage heights greater than 50 feet (15 240 mm) and 1 hour for stage heights of 50 feet (15 240 mm) or less, ~~the required stage separation shall be a fire barrier with not less than a 1-hour fire-resistance rating with approved opening protectives.~~

410.5.2 Separation from each other. Dressing rooms, scene docks, property rooms, workshops, storerooms and compartments appurtenant to the stage shall be separated from each other by not less than 1-hour fire barriers with not less than a 1-hour fire-resistance rating with approved opening protectives constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

3006.4 Machine rooms and machinery spaces. Elevator machine rooms and machinery spaces shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, ~~or both.~~ ~~with a~~ The fire-resistance rating shall not be less than the required rating of the hoistway enclosure served by the machinery. Openings in the fire barriers shall be protected with assemblies having a fire protection rating not less than that required for the hoistway enclosure doors.

3104.5 Fire barriers between pedestrian walkways and buildings. Walkways shall be separated from the interior of the building by fire barriers ~~walls~~ with a fire-resistance rating of not less than 2 hours. This protection shall extend vertically from a point 10 feet (3048 mm) above the walkway roof surface or the connected building roof line, whichever is lower, down to a point 10 feet (3048 mm) below the walkway and horizontally 10 feet (3048 mm) from each side of the pedestrian walkway. Openings within the 10-foot (3048 mm) horizontal extension of the protected walls beyond the walkway shall be equipped with devices providing a 3/4-hour fire protection rating in accordance with Section 715.

Exception: The walls separating the pedestrian walkway from a connected building are not required to have a fire-resistance rating by this section where any of the following conditions exist:

1. The distance between the connected buildings is more than 10 feet (3048 mm), the pedestrian walkway and connected buildings, except for open parking garages, are equipped throughout with an automatic sprinkler system in accordance with NFPA 13 and the wall is constructed of a tempered, wired or laminated glass wall and doors subject to the following:
 - 1.1. The glass shall be protected by an automatic sprinkler system in accordance with NFPA 13 and the sprinkler system shall completely wet the entire surface of interior sides of the glass wall when actuated.
 - 1.2. The glass shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) the glass before the sprinkler operates.
 - 1.3. Obstructions shall not be installed between the sprinkler heads and the glass.
2. The distance between the connected buildings is more than 10 feet (3048 mm), and both sidewalls of the pedestrian walkway are at least 50 percent open with the open area uniformly distributed to prevent the accumulation of smoke and toxic gases.
3. Buildings are on the same lot, in accordance with Section 503.1.3.
4. Where exterior walls of connected buildings are required by Section 704 to have a fire-resistance rating greater than 2 hours, the walkway shall be equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.

3410.6.16.1 (IEBC [B] 1301.6.16.1) Categories. The categories for mixed occupancies are:

1. Category a — ~~Minimum 1-hour fire barriers between~~ Occupancies separated by minimum 1-hour fire barriers or minimum 1-hour horizontal assemblies, or both.
2. Category b — ~~Fire barriers~~ Separations between occupancies in accordance with Section 508.3.3.
3. Category c — ~~Fire barriers~~ Separations between occupancies having a fire-resistance rating of not less than twice that required by Section 508.3.3.

PART III – IBC MEANS OF EGRESS

1021.3 (IFC 1021.3) Construction. Exit passageway enclosures shall have walls, floors and ceilings of not less than 1-hour fire-resistance rating, and not less than that required for any connecting exit enclosure. Exit passageways shall be constructed as fire barriers in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

1022.2 (IFC 1022.2) Separation. The separation between buildings or refuge areas connected by a horizontal exit shall be provided by a fire wall complying with Section 705 or a fire barrier complying with Section 706 and having a fire-resistance rating of not less than 2 hours. Opening protectives in horizontal exits ~~walls~~ shall also comply with Section 715. The horizontal exit separation shall extend vertically through all levels of the building unless floor assemblies have a fire resistance rating of not less than 2 hours with no unprotected openings.

Exception: A fire-resistance rating is not required at horizontal exits between a building area and an above-grade pedestrian walkway constructed in accordance with Section 3104, provided that the distance between connected buildings is more than 20 feet (6096 mm).

Horizontal exits ~~walls~~ constructed as fire barriers shall be continuous from exterior wall to exterior wall so as to divide completely the floor served by the horizontal exit.

PART IV – IFC

Revise as follows:

[F] 403.2 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 903.3.5.2.

Exception: An automatic sprinkler system shall not be required in spaces or areas of:

1. Open parking garages in accordance with Section 406.3.
2. Telecommunications equipment buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic fire detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers consisting of not less than 1-hour fire-resistance-rated walls and constructed in accordance with Section 706 or not less than 2-hour fire-resistance-rated floor/ceiling horizontal assemblies constructed in accordance with Section 711, or both.

[F] 404.3 Automatic sprinkler protection. An approved automatic sprinkler system shall be installed throughout the entire building.

Exceptions:

1. That area of a building adjacent to or above the atrium need not be sprinklered provided that portion of the building is separated from the atrium portion by not less than a 2-hour ~~fire-resistance-rated fire barriers~~ constructed in accordance with Section 706 or horizontal assembly assemblies constructed in accordance with Section 711, or both.
2. Where the ceiling of the atrium is more than 55 feet (16 764 mm) above the floor, sprinkler protection at the ceiling of the atrium is not required.

[F] 415.6.1.2 Grinding rooms. Every room or space occupied for grinding or other operations that produce combustible dusts shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~that have not less than a 2-hour~~ The minimum fire-resistance rating shall be 2 hours where the area is not more than 3,000 square feet (279 m²), and ~~not less than a 4-hour fire-resistance rating~~ 4 hours where the area is greater than 3,000 square feet (279 m²).

[F] 415.6.2.2 Tank protection. Storage tanks shall be noncombustible and protected from physical damage. A Fire barriers wall or horizontal assemblies or both around the storage tank(s) shall be permitted as the method of protection from physical damage.

[F] 415.6.3.4.1 Fire separation. Separation of the attached structures shall be provided by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~having a~~ The minimum fire-resistance rating ~~of not less than~~ shall be 1 hour and the fire barriers shall not have openings. Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies that comply with Section 715. Such fire barriers and horizontal assemblies shall be designed to withstand a static pressure of at least 100 pounds per square foot (~~psf~~) (4788 Pa), except where the building to which the structure is attached is occupied by operations or processes having a similar hazard.

[F] 415.6.3.5.2 Common construction. Walls and floor/ceiling assemblies common to the room and to the building within which the room is located shall be fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. ~~with not less than a 1-hour~~ The minimum fire-resistance rating shall be 1 hour and the fire barriers shall be without openings. Common walls for rooms occupied only for storage of LP-gas are permitted to have opening protectives complying with Section 715. The walls and ceilings shall be designed to withstand a static pressure of at least 100 psf (4788 Pa).

Exception: Where the building, within which the room is located, is occupied by operations or processes having a similar hazard.

[F] 415.7.1 Gas rooms. When gas rooms are provided, such rooms shall be separated from other areas by not less than a 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 415.7.3 Separation - highly toxic solids and liquids. Highly toxic solids and liquids not stored in approved hazardous materials storage cabinets shall be isolated from other hazardous materials storage by ~~a not less than 1-hour~~ fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both ~~having a fire-resistance rating of not less than 1 hour~~

[F] 415.8.2.2 Separation. Fabrication areas, whose sizes are limited by the quantity of hazardous materials allowed by Table 415.8.2.1.1, shall be separated from each other, from corridors, and from other parts of the building by not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:

1. Doors within such fire barrier walls, including doors to corridors, shall be only self-closing fire door assemblies having a fire-protection rating of not less than 3/4 hour.
2. Windows between fabrication areas and corridors are permitted to be fixed glazing listed and labeled for a fire protection rating of at least 3/4 hour in accordance with Section 715.

[F] 415.8.5.2.1 HPM rooms and gas rooms. HPM rooms and gas rooms shall be separated from other areas by ~~not less than a 2-hour~~ fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The minimum fire-resistance rating shall be 2 hours where the area is 300 square feet (27.9 m²) or more and ~~not less than a 1-hour fire barrier~~ 1 hour where the area is less than 300 square feet (27.9 m²).

[F] 415.8.5.2.2 Liquid storage rooms. Liquid storage rooms shall be constructed in accordance with the following requirements:

1. Rooms in excess of 500 square feet (46.5 m²) shall have at least one exterior door approved for fire department access.
2. Rooms shall be separated from other areas by fire barriers ~~having a~~ constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The fire-resistance rating of shall be not less than 1 hour for rooms up to 150 square feet (13.9 m²) in area and not less than 2 hours where the room is more than 150 square feet (13.9 m²) in area.
3. Shelving, racks and wainscoting in such areas shall be of noncombustible construction or wood of not less than 1 inch (25 mm) nominal thickness.
4. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.

[F] 416.2 Spray rooms. Spray rooms shall be enclosed with not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both ~~with not less than a 1-hour fire-resistance rating.~~ Floors shall be waterproofed and drained in an approved manner.

[F] 418.4 Tank storage. Storage areas for flammable and combustible liquid tanks inside of structures shall be located at or above grade and shall be separated from the processing area by not less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 418.5 Nitrocellulose storage. Nitrocellulose storage shall be located on a detached pad or in a separate structure or a room enclosed with no less than 2-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 418.6 Finished products. Storage rooms for finished products that are flammable or combustible liquids shall be separated from the processing area by not less than 2-hour fire barriers having a fire-resistance rating of at least 2 hours, and openings in the walls shall be protected with approved opening protectives constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

[F] 420.4 Design and construction. Hydrogen cutoff rooms shall be classified with respect to occupancy in accordance with Section 302.1 and separated from other areas of the building by not less than 1-hour fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both; or as required by Section 508.2 or 508.3 as applicable.

[F] 420.4.1 Opening protectives. Doors within ~~such~~ the fire barriers walls, including doors to corridors, shall be self-closing in accordance with Section 715. Interior door openings shall be electronically interlocked to prevent operation of the hydrogen system when doors are opened or ajar or the room shall be provided with a mechanical exhaust ventilation system designed in accordance with Section 420.4.1.1.

[F] 903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.

Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic fire alarm system and are separated from the remainder of the building by not less than 1-hour fire barriers consisting of not less than 1-hour fire-resistance-rated walls and constructed in accordance with Section 706 or not less than 2-hour fire-resistance-rated floor/ceiling horizontal assemblies constructed in accordance with Section 711, or both.

[F] 909.11 (IMC [F] 513.11, IFC 909.11) Power systems. The smoke control system shall be supplied with two sources of power. Primary power shall be the normal building power systems. Secondary power shall be from an approved standby source complying with the ICC *Electrical Code*. The standby power source and its transfer switches shall be in a ~~separate room~~ separate from the normal power transformers and switch gear and ventilated directly to and from the exterior. ~~and The room shall be enclosed in a room constructed of with~~ not less than 1-hour fire barriers ventilated directly to and from the exterior constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Power distribution from the two sources shall be by independent routes. Transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power. The systems shall comply with this code or the ICC *Electrical Code*.

[F] 910.3.4 Vent locations. Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers ~~walls~~. Vents shall be uniformly located within the roof area above high-piled storage areas, with consideration given to roof pitch, draft curtain location, sprinkler location and structural members.

[F] 910.4.4 Wiring and control. Wiring for operation and control of smoke exhaust fans shall be connected ahead of the main disconnect and protected against exposure to temperatures in excess of 1,000°F (538°C) for a period of not less than 15 minutes. Controls shall be located so as to be immediately accessible to the fire service from the exterior of the building and protected against interior fire exposure by not less than 1-hour fire barriers having a fire-resistance rating not less than 1-hour constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Reason: Code change proposal FS2-04/05 (AMPC1) changed the concept of a fire barrier from being a fire containment assembly to begin a component of a fire containment assembly. This was accomplished by changing the definition of fire barrier from begin a vertical or horizontal assembly to being a wall assembly and by deleting the provisions for horizontal fire barriers. The proposal made the necessary revisions to several sections of the IBC for consistency with the change in concept (i.e., Sections 403.10.1, 404.5, 414.2.1, 508.2.2.1, 508.3.3.4.1, 706.3.5, 706.3.7, 706.3.9, 707.5, 911.1 and 1020.1). The proposal, however, did not make the necessary revisions to other sections of the IBC, which are needed in order for the concept to be fully incorporated into the provisions of the IBC. The purpose of this proposal is to make the necessary revisions to the provisions in those code sections.

The changes are similar throughout the proposal, except for Sections 1022.2 and 3104.5. In these cases, the provisions apply only to walls. Consequently, "horizontal exit walls" is changed to "horizontal exits" in Section 1022.2 and "fire barrier walls" is changed to "fire barriers" in Section 3104.5 for consistency with the definition of fire barrier.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC FIRE SAFETY

Committee Action:

Approved as Submitted

Committee Reason: The proponent has correctly addressed an inconsistency in the code which has been caused by the changes made by FS2-04/05 in a previous code change cycle. Those changes made the distinction that fire barriers were walls and did not include horizontal assemblies. By going through these sections and making these changes, it provides consistency between the intent of FS2-04/05 and between the sections which were not addressed by that proposal. This action also is consistent with the action taken by the IFC committee earlier.

Assembly Action:

None

PART II – IBC GENERAL

Committee Action:

Approved as Submitted

Committee Reason: The revisions to add horizontal assemblies in addition to fire barriers is consistent with changes made to other portions of the code in the 2006 edition. This action is also consistent with the action on Part I of the proposal.

Assembly Action:

None

PART III – IBC MEANS OF EGRESS

Committee Action:

Approved as Submitted

Committee Reason: The revised language in Sections 1021.3 and 1022.2. would provide consistency in the code for the usage of the terms fire barriers and horizontal assemblies.

Assembly Action:

None

PART IV – IFC

Committee Action:

Approved as Submitted

Committee Reason: The proposal completes a needed correlation effort undertaken in the 2004/2005 cycle to provide consistent terminology and references when referring to fire barrier and horizontal assembly enclosures.

Assembly Action:

None

Final Hearing Results

FS37-06/07, Part I	AS
FS37-06/07, Part II	AS
FS37-06/07, Part III	AS
FS37-06/07, Part IV	AS

2006 INTERNATIONAL BUILDING CODE DOCUMENTATION GENERAL

Code Change No: **G8-06/07**

Original Proposal

Sections: [F] 415.6.2.1.1, 505.4, 506.1.1, 507.2, 507.3, 507.4, 507.6, 507.7, 507.8, 507.9, 507.10, 509.3, 509.8, [F] 903.2.8.1 (IFC 903.2.8.1), [F] 903.2.10.1 (IFC 903.2.10), 1009.11 (IFC [B] 1009.11), 1020.1 (IFC [B] 1020.1), 502.1, 202

Proponent: Maureen Traxler, City of Seattle, WA, Department of Planning and Development

Revise as follows:

[F] 415.6.2.1.1 Height exception. Where storage tanks are located within only a ~~single-story~~ building no more than one story in height, the height limitation of Section 503 shall not apply for Group H.

505.4 Openness. A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) high, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the occupant load of the aggregate area of the enclosed space does not exceed 10.
2. A mezzanine having two or more means of egress is not required to be open to the room in which the mezzanine is located if at least one of the means of egress provides direct access to an exit from the mezzanine level.
3. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space does not exceed 10 percent of the mezzanine area.
4. In industrial facilities, mezzanines used for control equipment are permitted to be glazed on all sides.
5. In other than Groups H and I occupancies no more than two stories in height ~~above grade plane~~ and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a mezzanine having two or more means of egress shall not be required to be open to the room in which the mezzanine is located.

506.1.1 Basements. A single basement ~~that is not a story above grade plane~~ need not be included in the total allowable area, provided such basement does not exceed the area permitted for a building with no more than one story above grade plane.

507.2 Nonsprinklered, one story. The area of a Group F-2 or S-2 building no more than one-story in height, ~~Group F-2 or S-2 building~~ shall not be limited when the building is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

507.3 Sprinklered, one story. The area of a Group B, F, M or S building no more than one-story in height, ~~Group B, F, M or S building~~ or a Group A-4 building no more than one-story in height ~~Group A-4 building~~, of other than Type V construction, shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.2 and 903.3.1.1 and NFPA 230.

2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
 - 2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and
 - 2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.
3. Group A-1 and A-2 occupancies of other than Type V construction shall be permitted, provided:
 - 3.1. All assembly occupancies are separated from other spaces as required for separated uses in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;
 - 3.2. Each Group A occupancy shall not exceed the maximum allowable area permitted in Section 503.1; and
 - 3.3. All required exits shall discharge directly to the exterior.

507.4 Two story. The area of a Group B, F, M or S building no more than two stories in height ~~two-story, Group B, F, M or S building~~ shall not be limited when the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

507.6 Group A-3 buildings. The area of a Group A-3 building no more than one-story in height, ~~Group A-3 building~~ used as a place of religious worship, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool or tennis court of Type II construction shall not be limited when all of the following criteria are met:

1. The building shall not have a stage other than a platform.
2. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. The assembly floor shall be located at or within 21 inches (533 mm) of street or grade level and all exits are provided with ramps complying with Section 1010.1 to the street or grade level.
4. The building shall be surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

507.7 Group H occupancies. Group H-2, H-3 and H-4 occupancies shall be permitted in unlimited area buildings containing Group F and S occupancies, in accordance with Sections 507.3 and 507.4 and the limitations of this section. The aggregate floor area of the Group H occupancies located at the perimeter of the unlimited area building shall not exceed 10 percent of the area of the building nor the area limitations for the Group H occupancies as specified in Table 503 as modified by Section 506.2, based upon the percentage of the perimeter of each Group H fire area that fronts on a street or other unoccupied space. The aggregate floor area of Group H occupancies not located at the perimeter of the building shall not exceed 25 percent of the area limitations for the Group H occupancies as specified in Table 503. Group H fire areas shall be separated from the rest of the unlimited area building and from each other in accordance with Table 508.3.3 For two-story unlimited area buildings, the Group H fire areas shall not be located ~~above the first~~ more than one story above grade plane unless permitted by the allowable height in stories and feet as set forth in Table 503 based on the type of construction of the unlimited area building.

507.8 Aircraft paint hangar. The area of a Group H-2 aircraft paint hangar no more than one-story in height, ~~Group H-2 aircraft paint hangar~~ shall not be limited where such aircraft paint hangar complies with the provisions of Section 412.4 and is entirely surrounded by public ways or yards not less in width than one and one-half times the height of the building.

507.9 Group E buildings. The area of a Group E building no more than one-story in height, ~~Group E building~~ of Type II, IIIA or IV construction shall not be limited when the following criteria are met:

1. Each classroom shall have not less than two means of egress, with one of the means of egress being a direct exit to the outside of the building complying with Section 1018.
2. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. The building is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

507.10 Motion picture theaters. In buildings of Type II construction, the area of a ~~one-story~~ motion picture theater located on the first story above grade plane shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

509.3 Group S-2 enclosed parking garage with Group S-2 open parking garage above. A Group S-2 enclosed parking garage located ~~in the basement or first~~ no more than one story above grade plane, and located below a Group S-2 open parking garage shall be classified as a separate and distinct building for the purpose of determining the type of construction when the following conditions are met:

1. The allowable area of the structure shall be such that the sum of the ratios of the actual area divided by the allowable area for each separate occupancy shall not exceed 1.0.
2. The Group S-2 enclosed parking garage is of Type I or II construction and is at least equal to the fire-resistance requirements of the Group S-2 open parking garage.
3. The height and the number of the floors above the basement shall be limited as specified in Table 406.3.5.
4. The floor assembly separating the Group S-2 enclosed parking garage and Group S-2 open parking garage shall be protected as required for the floor assembly of the Group S-2 enclosed parking garage. Openings between the Group S-2 enclosed parking garage and Group S-2 open parking garage, except exit openings, shall not be required to be protected.
5. The Group S-2 enclosed parking garage is used exclusively for the parking or storage of private motor vehicles, but shall be permitted to contain an office, waiting room and toilet room having a total area of not more than 1,000 square feet (93 m²), and mechanical equipment rooms incidental to the operation of the building.

509.8 Group B or M with Group S-2 open parking garage above. Group B or M uses located in the basement or first story above grade plane below a Group S-2 open parking garage shall be classified as a separate and distinct building for the purpose of determining the type of construction when all of the following conditions are met:

1. The basement or first story above grade plane shall be Type I or II construction, but not less than the type of construction required for the open parking garage above. The height and area of the basement or first story shall not exceed the limitations in Section 503 for the Group B or M uses.
2. The height and area of the open parking garage shall not exceed the limitations permitted under Section 406.3. The height, in both feet and stories, of the open parking garage shall be measured from grade plane and include both the open parking garage and the basement or first story above grade plane.
3. Fire separation assemblies between the open parking garage and the basement or first story above grade plane use group occupancy shall correspond to the required fire-resistance rating prescribed by Table 508.3.3
4. Exits serving the open parking garage shall discharge directly to a street or public way and shall be separated from the basement or first story above grade plane use group occupancy by not less than 2-hour fire barriers constructed in accordance with Section 706 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both, with opening protectives in accordance with Table 715.4.

[F] 903.2.8.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406, as shown:

1. Buildings having two or more stories in height, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m²).
2. ~~One-story buildings~~ Buildings no more than one story in height, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m²).
3. Buildings with a repair garage servicing vehicles parked in the basement.

[F] 903.2.10.1 Stories and basements without openings. An automatic sprinkler system shall be installed throughout all stories, including basements, ~~every story or basement~~ of all buildings where the floor area exceeds 1,500 square feet (139.4m²) and where there is not provided at least one of the following types of exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1009 or an outside ramp complying with Section 1010. Openings shall be located in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at least one side.
2. Openings entirely above the adjoining ground level totaling at least 20 square feet (1.86 m²) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at least one side.

1009.11 Stairway to roof. In buildings ~~located~~ four or more stories in height above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-percent slope). In buildings without an occupied roof, access to the roof from the top story shall be permitted to be by an alternating tread device.

1020.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
 - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
8. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.
9. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories above grade plane of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

502.1 Definitions.

BASEMENT. ~~That portion of a building that is partly or completely below grade plane (see “Story above grade plane” in Section 202). A basement shall be considered as~~ A story that is not a story above grade plane (See “Story above grade plane” in Section 202) ~~where the finished surface of the floor above the basement is:~~

- ~~1. More than 6 feet (1829 mm) above grade plane; or~~
- ~~2. More than 12 feet (3658 mm) above the finished ground level at any point.~~

**SECTION 202
DEFINITIONS**

STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above (also see “Basement”, “Mezzanine” and Section 502.1). It is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above grade plane, ~~except that a basement shall be considered as a story above grade plane or in which~~ where the finished surface of the floor ~~above the basement is:~~

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

Reason: The purpose of this proposal is to clarify the use of the term “basement” in the IBC.

Part 1 of the proposal makes several corrections to the use of terms.

It clarifies what is meant when the code uses “one-story building”, “two-story building”, “first story”, and similar phrases. “Story” is defined as “That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above”. According to this definition, basements are stories. This proposal revises several code sections to clarify that, when the codes uses ‘buildings with one (or two) stories in height’, or similar term, only stories above grade plane are counted. According to the current code language, a building with one basement and one story above grade plane would be considered a two-story building; according to this proposal, it would be a single-story building.

In Part 1 of this proposal, we have chosen to use the term “stories in height” instead of “stories above grade plane”. “Stories in height” is less awkward, and it is currently used many places in the code. “Stories in height” conveys the same meaning as “stories above grade plane”. It refers to the number of stories allowed by Table 503, which is measured in stories above grade plane. If “stories above grade plane” were to be used instead, many more code sections would require revisions. The important issue is to use one term consistently throughout the code.

Unnecessary language is removed from Section 506.1.1, since Part 1 clarified that basements are not stories above grade plane.

Note that this proposal deals only with Chapters 1 through 10. Changes to other chapters can be proposed in the next code cycle.

Part 2 of the proposal revises the definitions of “basement” and “story above grade plane”. Section 202 defines the term “basement” as a portion of a building that is at least partly below grade plane. The definition doesn’t specify a minimum amount of the portion that’s below grade plane, or how far below grade plane. A portion of a building that has one corner located one foot below grade plane is, therefore, a basement according to the current definition. The definition contains a discussion of when a basement is considered a story above grade plane, but that discussion doesn’t affect the determination of whether a portion of a building is a basement. A portion of a building can be both a basement and a story above grade plane. This proposal makes “basement” and “story above grade plane” mutually-exclusive terms.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: For consistency in the code, the General Committee will make the determination for entire proposal.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

507.3 Sprinklered, one story. The area of a Group B, F, M or S building no more than one-story in height, or a Group A-4 building no more than one-story in height, of other than Type V construction, shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.2 and 903.3.1.1 and NFPA 230.
2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
 - 2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and
 - 2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.
3. Group A-1 and A-2 occupancies of other than Type V construction shall be permitted, provided:
 - 3.1. All assembly occupancies are separated from other spaces as required for separated uses in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;
 - 3.2. Each Group A occupancy shall not exceed the maximum allowable area permitted in Section 503.1; and
 - 3.3. All required exits shall discharge directly to the exterior.

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor above is:

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

(Portions of proposal not shown remain unchanged)

Committee Reason: This proposal clarified the use of the term basement throughout the code. See also the proponent’s reason. The first amendment to Section 507.3 was based upon a concern with grammar. The modification retains commas that were initially struck out. The second amendment places the term “above” back in the definition of story above grade plane to retain the intent of the definition.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Maureen Traxler, City of Seattle, WA, Department of Planning and Development, requests Approval as Modified by this public comment.

Further modify proposal as follows:

[F] 415.6.2.1.1 Height exception. Where storage tanks are located within ~~only~~ a building no more than one story ~~in height~~ above grade plane, the height limitation of Section 503 shall not apply for Group H.

505.4 Openness. A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) high, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the occupant load of the aggregate area of the enclosed space does not exceed 10.
2. A mezzanine having two or more means of egress is not required to be open to the room in which the mezzanine is located if at least one of the means of egress provides direct access to an exit from the mezzanine level.
3. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space does not exceed 10 percent of the mezzanine area.
4. In industrial facilities, mezzanines used for control equipment are permitted to be glazed on all sides.
5. In other than Groups H and I occupancies no more than two stories ~~in height,~~ above grade plane and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a mezzanine having two or more means of egress shall not be required to be open to the room in which the mezzanine is located.

507.3 Sprinklered, one story. The area of a Group B, F, M or S building no more than one-story ~~in height~~ above grade plane or a Group A-4 building no more than one-story ~~in height~~ above grade plane of other than Type V construction, shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.2 and 903.3.1.1 and NFPA 230.
2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
 - 2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and
 - 2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.
3. Group A-1 and A-2 occupancies of other than Type V construction shall be permitted, provided:
 - 3.1. All assembly occupancies are separated from other spaces as required for separated uses in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;
 - 3.2. Each Group A occupancy shall not exceed the maximum allowable area permitted in Section 503.1; and
 - 3.3. All required exits shall discharge directly to the exterior.

507.4 Two story. The area of a Group B, F, M or S building no more than two stories ~~in height~~ above grade plane shall not be limited when the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

507.6 Group A-3 buildings. The area of a Group A-3 building no more than one-story ~~in height~~ above grade plane used as a place of religious worship, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool or tennis court of Type II construction shall not be limited when all of the following criteria are met:

1. The building shall not have a stage other than a platform.
2. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. The assembly floor shall be located at or within 21 inches (533 mm) of street or grade level and all exits are provided with ramps complying with Section 1010.1 to the street or grade level.
4. The building shall be surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

507.8 Aircraft paint hangar. The area of a Group H-2 aircraft paint hangar no more than one-story ~~in height~~ above grade plane, shall not be limited where such aircraft paint hangar complies with the provisions of Section 412.4 and is entirely surrounded by public ways or yards not less in width than one and one-half times the height of the building.

507.9 Group E buildings. The area of a Group E building no more than one-story ~~in height~~ above grade plane, of Type II, IIIA or IV construction shall not be limited when the following criteria are met:

1. Each classroom shall have not less than two means of egress, with one of the means of egress being a direct exit to the outside of the building complying with Section 1018.
2. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. The building is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

509.8 Group B or M with Group S-2 open parking garage above. Group B or M uses located in the basement or first story above grade plane below a Group S-2 open parking garage shall be classified as a separate and distinct building for the purpose of determining the type of construction when all of the following conditions are met:

1. The basement or first story above grade plane shall be Type I or II construction, but not less than the type of construction required for the open parking garage above. The height and area of the basement or first story shall not exceed the limitations in Section 503 for the Group B or M uses.
2. The height and area of the open parking garage shall not exceed the limitations permitted under Section 406.3. The height, in both feet and stories, of the open parking garage shall be measured from grade plane and include both the open parking garage and the basement or first story above grade plane.
3. Fire separation assemblies between the open parking garage and the occupancy located in the basement or on the first story above grade plane ~~occupancy~~ shall correspond to the required fire-resistance rating prescribed by Table 508.3.3.
4. Exits serving the open parking garage shall discharge directly to a street or public way and shall be separated from the occupancy located in the basement or on the first story above grade plane ~~occupancy~~ by not less than 2-hour fire barriers constructed in accordance with Section 706 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both, with opening protectives in accordance with Table 715.4.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

[F] 903.2.8.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406, as shown:

1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m²).
2. Buildings no more than one story ~~in height~~ above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m²).
3. Buildings with a repair garage servicing vehicles parked in the basement.

1009.11 Stairway to roof. In buildings four or more stories ~~in height~~ above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-percent slope). In buildings without an occupied roof, access to the roof from the top story shall be permitted to be by an alternating tread device.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: These modifications are proposed for the sake of consistency with the Code Development Committee action on G6-06/07. G6-06/07 changed several code sections from "...stories in height" to "...stories above grade plane". Together, G6-06/07 and G8-06/07 clarify that when the number of stories is used to trigger a code requirement in the affected sections, the code is referring to the number of stories above grade plane.

Final Hearing Results

G8-06/07

AMPC1

Code Change No: G46-06/07

Original Proposal

Sections: 308.5.1 (IFC [B] 202)

Proponent: Wayne R. Jewell, City of Southfield, MI

Revise as follows:

308.5.1 Adult care facility. A facility that provides accommodations for less than 24 hours for more than five unrelated adults and provides supervision and personal care services shall be classified as Group I-4.

Exception: A facility where occupants are capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group ~~A-3~~ R-3.

Reason: When I had proposed change G-32-00 I had a serious typo an "A" was placed where an "R" should have been. I never intended for these facilities to be considered an Assembly Group and this is a correction of my error. The language in Section 310.1 for R-3 uses does speak to these uses.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal corrects an incorrect occupancy classification. The current Group R-3 occupancy classifications in Section 310 correlate with this proposal.

Analysis: See committee action on G38-06/07.

Assembly Action:

None

Final Hearing Results

G46-06/07

AS

Code Change No: **G47-06/07**

Original Proposal

Sections: 310.1 (IFC [B] 202)

Proponent: Richard Lyman, Sandy City Fire Department, representing the Utah Chapter

Revise as follows:

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code* in accordance with Section 101.2. Residential occupancies shall include the following:

R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

- Boarding houses (transient)
- Hotels (transient)
- Motels (transient)

Congregate living facilities (transient) with 10 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

- Apartment houses
- Boarding houses (not transient)
- Convents
- Dormitories
- Fraternities and sororities
- Hotels (nontransient)
- Monasteries
- Motels (nontransient)
- Vacation timeshare properties

Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

- Buildings that do not contain more than two dwelling units.
- Adult facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
- Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
- Congregate living facilities with 16 or fewer persons.
- Adult care and child care facilities that are within a single-family home are permitted to comply with the *International Residential Code*

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code, or shall comply with the *International Residential Code*.

Reason: This change would establish a threshold of 10 for occupancies such as a bed and breakfast or a ski rental which would otherwise be considered an R-1. If a single family dwelling was converted into a bed and breakfast with two bedrooms accommodating just 4 guests the requirements for an R-1 are triggered. One of the Legacy Codes established a threshold of 10 for congregate residences. This concept was brought back into the IBC in the 2006 Code for an R-2 but not an R-1. Because of the transient nature of these types of occupancies and the lack of familiarity with surroundings a maximum of 10 rather than 16 is proposed.

Utah has a statewide amendment to the 2003 IBC that currently addresses R-1 and R-2 occupancies with a similar exception. This statewide amendment would be eliminated with the approval of the proposed change.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal addresses the need to provide a classification of congregate living facilities that are considered transient in nature under Group R-1. The 2006 IBC contains a classification for more permanent facilities under Group R-2. The classification under Group R-1 is more restrictive and allows a Group R-3 classification only if the number of occupants is 10 or less versus 16 or less under Group R-2.

Assembly Action:

None

Final Hearing Results

G47-06/07

AS

Code Change No: G71-06/07

Original Proposal

Sections: 403.15 (New), 1019.1 (IFC [B] 1019.1)

Proponent: William M. Connolly, State of New Jersey, Dept. of Community Affairs, Division of Codes and Standards, representing the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

1. Add new text as follows:

403.15 Additional exit stairway. For buildings other than Group R-2 that are more than 420 feet (128 m) in height, one additional exit stairway meeting the requirements of Sections 1009 and 1020 shall be provided in addition to the minimum number of exits required by Section 1019.1. The total width of any combination of remaining stairways with one stairway removed shall not be less than the total width required by Section 1005.1. Scissor stairs shall not be considered the additional exit stair required by this section.

2. Revise as follows:

1019.1 Minimum number of exits. All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on the occupant load of the story, except as modified in Sections 403.15, 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

This proposed change is intended to enable rapid full evacuation of very tall buildings by ensuring that ongoing and critical firefighting activity does not reduce the total required exit capacity needed to evacuate the remaining occupants of the building. It implements, in part, Recommendation 17 of the National Institute of Standards and Technology (NIST) World Trade Center (WTC) report.

The basic purpose behind the Code's current egress provisions for very tall buildings is to evacuate several floors near the fire floor. The provisions do not contemplate prompt full building evacuation. The NIST WTC report calls for Codes to consider that criterion. It is important to note that the need for full evacuation may be the result of a terrorist event, but that a range of other natural occurrences or man-made failures might also necessitate full building evacuation.

If the need for a full building evacuation occurs because of or at the same time as a fire then there will be very real problems. Necessary firefighting operations will reduce the capacity of the egress system. The extended period of time needed to fully evacuate a very tall building means that people will still be evacuating while full firefighting operations are taking place. Sound high rise fire fighting doctrine provides that the fire department take control of one stair, the one most appropriate to the circumstances of the given fire condition, in order to conduct suppression activities. In a building having two required stairs, each of the same width, this means that one-half of the exit capacity has been lost in a building which is still being evacuated.

This proposal calls for an additional stair so that egress capacity will be maintained through the time that full evacuation is complete. It is important to note that this additional stair is not proposed to be a dedicated fire department stair. The intent of the proposed provision is that the fire department be able to choose the stair which is most appropriate for the actual fire event. The principal purpose of this change is to maintain egress capacity in the case of fire events, but the additional stair will also significantly shorten the time needed for full evacuation in non-fire events.

The proponents recognize that effective use of this feature will require emergency responders to manage evacuation flow to the available stairs. The proponents have submitted proposed changes to Articles 4, 7, and 9 of the IBC that will assist in that management. It should be pointed out, however, that this management problem exists under current code provisions; it is just magnified by the loss of egress capacity for full building evacuation.

The issue of "counter flow" has been much discussed since the WTC tragedy --counter flow meaning the fire fighters going up interfere with occupants moving down. The NIST report suggests that counter flow did not slow evacuation rates, but it did affect firefighter ascent rates. Some have suggested that widening the minimum width of stairs will resolve the counter flow problem.

The proponents disagree and believe that dedicating a stair to the fire service while maintaining necessary egress capacity in the remaining stairs is a better solution. There is a practical limit to how rapidly occupants can descend, no matter how wide the stair. Whether minimum width should be expanded because the practical limit cannot be obtained at the current minimum is a different code issue than the one addressed here. The proponents have not seen data or analysis which suggest that additional minimum width is needed, independent of counter flow considerations.

Really rapid evacuation of all occupants, but especially those with disabilities, depends upon the development of robust and safe evacuation elevators. That is the long term solution. The elevator industry and the ASME A-117.1 Committee are working hard on this important challenge but a lot of work remains to be done. The proponents recognize that evacuation elevators might one day eliminate the need for the extra stair proposed here, but believe that something must be done now to address this very real problem.

The proposal adds a new Section 403.15 which requires one more stair than is otherwise required by Section 1019.1. It requires that the stair meet the minimum width requirements of Section 1009.1. More importantly, it also requires that the additional stair and the two (or more) stairs required by Section 1019.1 be sized, in terms of width, such that any combination of all stairs, less one, will provide for the required total width required by Section 1009.1. This meets the intent of the change that the required egress width be available even with one stair being used for firefighting operations.

It is important to note that the proposal does not require the additional stair to be located in accordance with other applicable requirements such as travel distance and separation. Those provisions of the Code will be met by the other stairs. The proponents believe that those requirements might be very difficult to meet with the additional stair and are not needed given the intent of the change.

Bibliography: National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

Cost Impact: The code change proposal will increase the cost of construction for very tall buildings.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee felt that review of the NIST report was not yet complete, therefore this proposal was premature. Modeling should be done to show the extent that an additional stair would improve exiting. The logistics of closing off a stairway for fire department staging during an emergency evacuation must be investigated. The calculation method for exit stairway width was confusing, and did not clearly indicate the width required for the extra stairway. The location of the extra stairway in relation to the other exit stairways was not indicated. In a high rise, fire fighters will typically be using the elevator to get near the fire floor and then move to the stairway. A question would be if this stairway should be located near the elevators.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

William M. Connolly, State of New Jersey, Dept. of Community Affairs, Division of Codes and Standards, representing the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings, requests Approval as Submitted.

Commenter's Reason: The Code Development Committee disapproved this change for several reasons. The first was that the "NIST report was not yet complete and the proposal was premature". The NIST report is complete and this proposal addresses Recommendation 17 of the report. The committee also felt that modeling should be done to show the impact of the additional stair. Modeling has been performed by NIST. This

model demonstrates that the additional stair improves occupant egress and fire fighter access in all cases. The degree to which the access is improved is directly related to the location of the fire in the building. The committee was also confused with the manner in which the minimum width of the stair is calculated. The code change requires that required egress capacity for the building be determined with one stairway removed from the equation. The committee was also concerned with the lack of guidance regarding the location of the stair. The location of the additional stair is irrelevant. The fire service will commandeer the stair that is closest to the fire location; this code change merely assures that sufficient egress capacity is provided when the fire service does so. It also provides unimpeded access to the fire floor for the fire service. It is for these reasons that the TRB Ad-Hoc Committee requests your support for As Submitted.

Final Hearing Results

G71-06/07

AS

Code Change No: G81-06/07

Original Proposal

Sections: 406.3.6, 412.3.1, 412.3.6, [F] 415.6.1.6, Ch. 5, [F] 905.3.1 (IFC 905.3.1), 1406.2.2, 1509.5.1, 1808.2.5, 1915.5

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

1. Revise as follows:

406.3.6 Area and height increases. The allowable area and height of open parking garages shall be increased in accordance with the provisions of this section. Garages with sides open on three-fourths of the building's perimeter are permitted to be increased by 25 percent in area and one tier in height. Garages with sides open around the entire building's perimeter are permitted to be increased by 50 percent in area and one tier in height. For a side to be considered open under the above provisions, the total area of openings along the side shall not be less than 50 percent of the interior area of the side at each tier and such openings shall be equally distributed along the length of the tier.

Allowable tier areas in Table 406.3.5 shall be increased for open parking garages constructed to heights less than the table maximum. The gross tier area of the garage shall not exceed that permitted for the higher structure. At least three sides of each such larger tier shall have continuous horizontal openings not less than 30 inches (762 mm) in clear height extending for at least 80 percent of the length of the sides and no part of such larger tier shall be more than 200 feet (60 960 mm) horizontally from such an opening. In addition, each such opening shall face a street or yard accessible to a street with a width of at least 30 feet (9144 mm) for the full length of the opening, and standpipes shall be provided in each such tier.

Open parking garages of Type II construction, with all sides open, shall be unlimited in allowable area where the building height does not exceed 75 feet (22 860 mm). For a side to be considered open, the total area of openings along the side shall not be less than 50 percent of the interior area of the side at each tier and such openings shall be equally distributed along the length of the tier. All portions of tiers shall be within 200 feet (60 960 mm) horizontally from such openings or other natural ventilation openings as defined in Section 406.3.3.1. These openings shall be permitted to be provided in courts with a minimum width of 30 feet (9144 mm) for the full width of the openings.

412.3.1 Definition. The following word and term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

RESIDENTIAL AIRCRAFT HANGAR. An accessory building less than 2,000 square feet (186 m²) and 20 feet (6096 mm) in building height, constructed on a one- or two-family residential property where aircraft are stored. Such use will be considered as a residential accessory use incidental to the dwelling.

412.3.6 Height and area limits. Residential aircraft hangars shall not exceed 2,000 square feet (186 m²) in area and 20 feet (6096 mm) in building height.

[F] 415.6.1.6 Coal pockets. Coal pockets located less than 30 feet (9144 mm) from interior lot lines or from structures on the same lot shall be constructed of not less than Type IB construction. Where more than 30 feet (9144 mm) from interior lot lines, or where erected along a railroad right-of-way, the minimum type of construction of such structures not more than 65 feet (19 812 mm) in building height shall be Type IV.

CHAPTER 5 GENERAL BUILDING HEIGHTS AND BUILDING AREAS

[F] 905.3.1 (IFC 905.3.1) Building Height. Class III standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.
3. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.
4. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.
5. In determining the lowest level of fire department vehicle access, it shall not be required to consider:
 - 5.1. Recessed loading docks for four vehicles or less; and
 - 5.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

1406.2.2 Architectural trim. In buildings of Type I, II, III and IV construction that do not exceed three stories or 40 feet (12 192 mm) in building height above grade plane, exterior wall coverings shall be permitted to be constructed of wood where permitted by Section 1405.4 or other equivalent combustible material. Combustible exterior wall coverings, other than fire-retardant-treated wood complying with Section 2303.2 for exterior installation, shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less. Architectural trim that exceeds 40 feet (12 192 mm) in height above grade plane shall be constructed of approved noncombustible materials and shall be secured to the wall with metal or other approved noncombustible brackets.

1509.5.1 Noncombustible construction required. Any tower, spire, dome or cupola that exceeds 60 feet (18 288) in height above the highest point at which it comes in contact with the roof, or that exceeds 200 square feet (18.6 m²) in area at any horizontal section, or which is intended to be used for any purpose other than a belfry or architectural embellishment, shall be entirely constructed of and supported by noncombustible materials. Such structures shall be separated from the building below by construction having fire-resistance rating of not less than 1.5 hours with openings protected with a minimum 1.5-hour fire-protection rating. Structures, except aerial supports 12 feet (3658 mm) high or less, flagpoles, water tanks and cooling towers, placed above the roof of any building more than 50 feet (15 240 mm) in building height, shall be of noncombustible material and shall be supported by construction of noncombustible material.

1808.2.5 Stability. Piers or piles shall be braced to provide lateral stability in all directions. Three or more piles connected by a rigid cap shall be considered braced, provided that the piles are located in radial directions from the centroid of the group not less than 60 degrees (1 rad) apart. A two-pile group in a rigid cap shall be considered to be braced along the axis connecting the two piles. Methods used to brace piers or piles shall be subject to the approval of the building official.

Piles supporting walls shall be driven alternately in lines spaced at least 1 foot (305 mm) apart and located symmetrically under the center of gravity of the wall load carried, unless effective measures are taken to provide for eccentricity and lateral forces, or the wall piles are adequately braced to provide for lateral stability. A single row of piles without lateral bracing is permitted for one- and two-family dwellings and lightweight construction not exceeding two stories or 35 feet (10 668 mm) in building height, provided the centers of the piles are located within the width of the foundation

1915.5 Fire-resistance-rating protection. Pipe columns shall be of such size or so protected as to develop the required fire-resistance ratings specified in Table 601. Where an outer steel shell is used to enclose the fire-resistant covering, the shell shall not be included in the calculations for strength of the column section. The minimum diameter of pipe columns shall be 4 inches (102 mm) except that in structures of Type V construction not exceeding three stories or 40 feet (12 192 mm) in building height, pipe columns used in the basement and as secondary steel members shall have a minimum diameter of 3 inches (76 mm).

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The code sections in this proposal have one thing in common. They specify requirements for a building based on its height. The IBC does not specify how to determine a building’s height and the code user is left with a subjective standard for the measurement. Section 502.1, however, defines “building height” as “the vertical distance from grade plane to the average height of the highest roof surface.” Grade plane is also defined in Section 502.1. The proposal will change “height” to “building height” so that the determination is an objective one based on the definitions for building height and grade plane.

This proposal does not include each code section in the IBC that specifies requirements for a building or structure based on its height. There are cases where the determination of their height from grade plane to the average height of the highest roof surface is not warranted or not applicable (e.g., towers, spires, domes, cupolas, etc.). Please refer to Sections 412.1.5, 903.2.10.3, 1509.5, 2109.1.1, 3108.3, 3202.2 and 3310.1.

This proposal also does not include references to the height of a building in terms of distance and number of stories. In these cases, the defined term of building height is not appropriate because it is limited to the height of a building in terms of distance. Please refer to Sections 503.1, 508.3.1.2, 508.3.2.2 and 508.3.3.3, and Table 503.

Note that “building height” is currently used in other sections of the IBC. Please refer to Sections 509.2(5) and 1709.3(2).

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis. While some sections listed are typically the purview of other committees, for consistency, the General Committee will make the determination for entire proposal.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Cleans up code terminology with regard to building height. “Building height” is a defined term whereas “height” is not specifically defined.

Assembly Action:

None

Final Hearing Results

G81-06/07

AS

Code Change No: G84-06/07

Original Proposal

Sections: 408.2, 1014.2 (IFC [B] 1014.2)

Proponent: Maureen Traxler, City of Seattle, WA, representing the Washington Association of Building Officials

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL AND IBC MEANS OF EGRESS CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES

PART I – IBC GENERAL

Revise as follows:

408.2 Mixed occupancies. Portions of buildings with an occupancy in Group I-3 that are classified as a different occupancy shall meet the applicable requirements of this code for such occupancies. Where security operations necessitate the locking of required means of egress, provisions shall be made for the release of occupants at all times.

Means of egress from detention and correctional occupancies that traverse other use areas shall, as a minimum, conform to requirements for detention and correctional occupancies.

Exception: It is permissible to exit through a horizontal exit into other contiguous occupancies that do not conform to detention and correctional occupancy egress provisions but that do comply with requirements set forth in the appropriate occupancy, as long as the occupancy is not a ~~high-hazard~~ Group H use.

PART II – IBC MEANS OF EGRESS

Revise as follows:

1014.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas are accessory to the area served, are not a ~~high-hazard~~ Group H occupancy and provide a discernible path of egress travel to an exit.

Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

2. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

Exceptions:

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
 - 2.1. The stock is of the same hazard classification as that found in the main retail area;
 - 2.2. Not more than 50 percent of the exit access is through the stockroom;
 - 2.3. The stockroom is not subject to locking from the egress side; and
 - 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full or partial height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.
3. An exit access shall not pass through a room that can be locked to prevent egress.
4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

Reason: This proposed change clarifies the application of the code section. “High-hazard occupancy” is a vague, undefined term. “Group H occupancy” is the designation commonly used in the IBC for high hazard occupancies—Section 307 is titled “High-hazard Group H”. The Commentary to the 2003 IBC states “egress paths ... must not pass through an extraordinary fire hazard, such as an area of high-hazard use (Group H).” If these provisions are not intended to apply to Group H occupancies, then what is intended?

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC GENERAL

Committee Action:

Approved as Submitted

Committee Reason: The terminology “high-hazard” is not defined. Revising the terminology to Group H clarifies which specific use classification is intended.

Assembly Action:

None

PART II – IBC MEANS OF EGRESS

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved to be consistent with the action taken by the General committee in Part I of the proposal for similar language in Section 408.2. The current use of the term “high hazard” is not defined. The revised language clarifies that the intent is for all Group H occupancies.

Assembly Action:

None

Final Hearing Results

G84-06/07, Part I
G84-06/07, Part II

AS
AS

Code Change No: **G92-06/07**

Original Proposal

Sections: 419 (New), 310.1 (IFC 202), 508.3.1; IRC R101.2

Proponent: David S. Collins, FAIA, The Preview Group, Inc., representing the American Institute of Architects

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL AND IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES

PART I – IBC

1. Add new text as follows:

SECTION 419
LIVE/WORK UNITS

419.1 General. A live/work unit is a dwelling unit or sleeping unit in which a significant portion of the space includes a non-residential use which is operated by the tenant and shall comply with Section 419.

Exception: Dwelling units or sleeping units which include an office that is less than 10% of the area of the dwelling unit shall not be classified as a live/work unit.

419.1.1 Limitations: The following shall apply to all live/work areas:

1. The live/work unit is permitted to be a maximum of 3,000 sq ft;
2. The non-residential area is permitted to be a maximum 50% of the area of each live/work unit;
3. The non-residential area function shall be limited to the first or main floor only of the live-work unit; and
4. A maximum of 5 non-residential worker or employees are allowed to occupy the non-residential area at any one time.

419.2 Occupancies. Live/work units shall be classified as a Group R-2 occupancy. Separation requirements found in Section 508.3 shall not apply when the live/work unit is in compliance with Section 419. High hazard and storage occupancies shall not be permitted in a live/work unit. The aggregate of storage in the live/work unit shall be limited to 10% of the space dedicated to non-residential activities.

419.3 Means of egress. Except as modified by this section, the provisions for Group R-2 occupancies in Chapter 10 shall apply to the entire live/work unit.

419.3.1 Egress capacity. The egress capacity for each element of the live/work unit shall be based on the occupancy load for the occupancy served in accordance with Table 1004.1.1.

419.3.2 Sliding doors. Where doors in a means of egress are of the horizontal-sliding type, the force to slide the door to its fully open position shall not exceed 50 pounds (220 N) with a perpendicular force against the door of 50 pounds (220 N).

419.3.3 Spiral stairs. Spiral stairs that conform to the requirements of Section 1009.8 shall be permitted.

419.3.4 Locks. Egress doors shall be permitted to be locked in accordance Exception 4 of Section 1008.1.8.3.

419.4 Vertical openings. Floor opening between floor levels of a live/work unit is permitted without enclosure.

419.5 Fire protection. The live-work unit shall be provided with a monitored fire alarm system where required by Section 907.2.9, and a fire sprinkler system in accordance with Section 903.2.7.

419.6 Structural. Floor loading for the areas within a live/work unit shall be designed to conform to Table 1607.1 based on the function within the space.

419.7 Accessibility. The applicable requirements of Chapter 11 shall apply to each area within the live/work unit.

419.8 Ventilation. The applicable requirements of the *International Mechanical Code* shall apply to each area within the live/work unit for the function within that space.

(Renumber subsequent sections)

2. Revise as follows:

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code* in accordance with Section 101.2. Residential occupancies shall include the following:

R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient)
Hotels (transient)
Motels (transient)

R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses
Boarding houses (not transient)
Convents
Dormitories
Fraternities and sororities
Hotels (nontransient)
Live/work units
Monasteries
Motels (nontransient)
Vacation timeshare properties

Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two dwelling units.
Adult facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
Congregate living facilities with 16 or fewer persons.
Adult and child care facilities that are within a single-family home are permitted to comply with the *International Residential Code*.

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code, or shall comply with the *International Residential Code*.

3. Revise as follows:

508.3.1 Accessory occupancies. Accessory occupancies are those occupancies subsidiary to the main occupancy of the building or portion thereof. Aggregate accessory occupancies shall not occupy more than 10 percent of the area of the story in which they are located and shall not exceed the tabular values in Table 503, without height and area increases in accordance with Sections 504 and 506 for such accessory occupancies.

Exceptions:

1. Accessory assembly areas having a floor area less than 750 square feet (69.7 m²) are not considered separate occupancies.

2. Assembly areas that are accessory to Group E occupancies are not considered separate occupancies except when applying the assembly occupancy requirements of Chapter 11.
3. Accessory religious educational rooms and religious auditoriums with occupant loads of less than 100 are not considered separate occupancies.
4. Live/work units in accordance with Section 419 are not considered separate occupancies.

PART II – IRC

Revise as follows:

R101.2 Scope. The provisions of the *International Residential Code for One- and Two-family Dwellings* shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above-grade in height with a separate means of egress and their accessory structures.

Exception: Live/work units complying with the requirements of Section 419 of the *International Building Code* shall be permitted to be built as one- and two-family dwellings or townhouses. Fire suppression required by Section 419.5 of the *International Building Code* when constructed under the *International Residential Code for One- and Two-family Dwellings* shall conform to Section 903.3.1.3 of the *International Building Code*.

Reason: IBC. This code change creates a live/work unit that is considered to be an R-2 dwelling for application of the code. Several limitations and specific requirements that are to be applied to both the dwelling portion of the unit and the work portion of the unit are itemized. Fire suppression is required throughout a building containing a live/work unit; ventilation and structural requirements must be applied based on the function in the space, and these criteria are applicable whether the unit is in an IBC or IRC building.

The current IBC and IRC do not allow residential live-work units in a form that is typically desirable for community development. This increasingly popular concept of design and construction allows a public service business, with employees working within a residence and allows the public to enter the work area of the unit to acquire service. Some examples of live-work commercial functions are artist's studios, coffee shops and chiropractor's offices. It is important to note that live-work is specifically not to apply to an in home office (architect home office, consultant home office, et al).

These throwbacks to 1900 era planning, created a community where residents could walk to all needed services such as the typical corner commercial store scattered across many old cities. Live-work units began to re-emerge in the 1990's through a development style known as "Traditional Neighborhood Design" (TND). More recently, adaptive reuse of many older urban structures in city centers incorporated the same live-work tools to provide a variety of residential unit types.

Historically, the building codes did not have to deal with the live-work issue by zoning codes which generally precluded a mix of uses within a neighborhood, much less within a building. However, recent planning trends adopted by many jurisdictions, encourage the mixing of commercial and residential uses, not just in neighborhoods, but also in buildings, and even within unit types, such as the live-work unit commonly found in TND projects.

The live-work approach is also driven by the desire to provide affordable housing. Many cities and towns struggle with their revival also driving real estate values up and driving service level citizens out of their community. These jurisdictions want a full range of citizens to be able to both work and live in their community. They aggressively pursue affordable housing, with the *International Residential Code* (IRC) being a key tool in this effort. The IRC allows jurisdictions to produce a range of housing types at competitive market values. Included among these is the live-work unit.

There are no provisions for any use other than residential in the IRC. Since live-work units mix in a commercial use, they are driven out of the IRC, into the IBC. When this happens, the live-work units incur an increase in code related construction requirements (use separation, construction type, egress, fire prevention) far in excess of any risk present in the work function. The added requirements drive the construction cost up, and inevitably drive the units out of the affordable housing range.

The provisions in the IBC are intended to apply to buildings which contain live/work units and would conform in general with the R-2 provisions. In addition, a code change has been proposed to the IRC referencing this section for the criteria that would be appropriate for live/work units built under that code. Obviously, the method by which mixed use unseparated is applied is critical to the usefulness of the live/work concept.

This proposal allows mixed use unseparated occupancies within the dwelling unit or sleeping unit that meets the limits of this section to be classified as an R-2 occupancy. Any occupancy that is not within a dwelling unit would have to be treated as a mixed use condition and would be separated per the IBC. Special features that are common within a dwelling unit and are likely within the live/work unit are addressed in order to clearly delineate the means for designing a live/work unit.

Of concern to many Code Officials and Architects alike is the problem posed by the absence of any live-work provision in the IRC or IBC. Too often, this results in one of two poor choices: a) either the owner misrepresents the proposed "work" use, or b) the Code Officials are encouraged to look the other way, ignoring the "work" use. Consequently, conscientious Code Officials and Architects desire a code compliance tool that addresses their live-work predicament, allowing them to solve this problem as an integral part of a project's code compliance strategy, while still providing affordable residential units.

IBC. This code change creates a live/work unit that is considered to be an R-2 dwelling for application of the code. Several limitations and specific requirements that are to be applied to both the dwelling portion of the unit and the work portion of the unit are itemized. Fire suppression is required throughout a building containing a live/work unit; ventilation and structural requirements must be applied based on the function in the space, and these criteria are applicable whether the unit is in an IBC or IRC building.

The current IBC and IRC do not allow residential live-work units in a form that is typically desirable for community development. This increasingly popular concept of design and construction allows a public service business, with employees working within a residence and allows the public to enter the work area of the unit to acquire service. Some examples of live-work commercial functions are artist's studios, coffee shops and chiropractor's offices. It is important to note that live-work is specifically not to apply to an in home office (architect home office, consultant home office, et al).

These throwbacks to 1900 era planning, created a community where residents could walk to all needed services such as the typical corner commercial store scattered across many old cities. Live-work units began to re-emerge in the 1990's through a development style known as "Traditional Neighborhood Design" (TND). More recently, adaptive reuse of many older urban structures in city centers incorporated the same live-work tools to provide a variety of residential unit types.

Historically, the building codes did not have to deal with the live-work issue by zoning codes which generally precluded a mix of uses within a neighborhood, much less within a building. However, recent planning trends adopted by many jurisdictions, encourage the mixing of commercial and residential uses, not just in neighborhoods, but also in buildings, and even within unit types, such as the live-work unit commonly found in TND projects.

The live-work approach is also driven by the desire to provide affordable housing. Many cities and towns struggle with their revival also driving real estate values up and driving service level citizens out of their community. These jurisdictions want a full range of citizens to be able to both work and live in their community. They aggressively pursue affordable housing, with the *International Residential Code* (IRC) being a key tool in this effort. The IRC allows jurisdictions to produce a range of housing types at competitive market values. Included among these is the live-work unit.

There are no provisions for any use other than residential in the IRC. Since live-work units mix in a commercial use, they are driven out of the IRC, into the IBC. When this happens, the live-work units incur an increase in code related construction requirements (use separation, construction type, egress, fire prevention) far in excess of any risk present in the work function. The added requirements drive the construction cost up, and inevitably drive the units out of the affordable housing range.

The provisions in the IBC are intended to apply to buildings which contain live/work units and would conform in general with the R-2 provisions. In addition, a code change has been proposed to the IRC referencing this section for the criteria that would be appropriate for live/work units built under that code. Obviously, the method by which mixed use unseparated is applied is critical to the usefulness of the live/work concept.

This proposal allows mixed use unseparated occupancies within the dwelling unit or sleeping unit that meets the limits of this section to be classified as an R-2 occupancy. Any occupancy that is not within a dwelling unit would have to be treated as a mixed use condition and would be separated per the IBC. Special features that are common within a dwelling unit and are likely within the live/work unit are addressed in order to clearly delineate the means for designing a live/work unit.

Of concern to many Code Officials and Architects alike is the problem posed by the absence of any live-work provision in the IRC or IBC. Too often, this results in one of two poor choices: a) either the owner misrepresents the proposed "work" use, or b) the Code Officials are encouraged to look the other way, ignoring the "work" use. Consequently, conscientious Code Officials and Architects desire a code compliance tool that addresses their live-work predicament, allowing them to solve this problem as an integral part of a project's code compliance strategy, while still providing affordable residential units.

Cost Impact: The code change proposal will increase the cost of construction. There is no way to calculate the actual impact because this is a design concept that is new to the code, and except when it has been allowed through an appeal or variance process, hasn't been widely used. The criteria are generally limitations that are designed to aid the designer/owner and building official to appropriately use the live/work concept, many of which are already within the code and will have little cost impact (sprinklers/alarms/etc.). The unique feature of this proposal in concert with the proposal to the IRC is the use of the IBC criteria for a building built under the IRC.

Analysis: Regarding the Chapter 11 reference in proposed Section 419.7, would a live/work area be considered part of a dwelling unit in the consideration of the Type A and Type B unit requirements, particularly the multistory dwelling unit exception?

Public Hearing Results

PART I – IBC

Committee Action:

Approved As Submitted

Committee Reason: Though there were several minor concerns with the proposal the need for such provisions was seen as critical and it was pointed out that within the IBC all Group R occupancies will be sprinklered. This proposal will allow the building code to keep pace with development and revisions to zoning laws which allow such development.

Assembly Action:

None

PART II – IRC

Committee Action:

Approved as Submitted

Committee Reason: The proposed language helps make it clear that live/work units are required to have fire suppression throughout. This additional language provides needed clarity as to the intent and aids the code official.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted for Part I.

Public Comment 1:

Ronald Nickson, National Multi Housing Council, requests Approval as Modified by this public comment for Part I.

Modify proposal as follows:

419.7 Accessibility. ~~Accessibility shall be designed in accordance with Chapter 11. The applicable requirements of Chapter 11 shall apply to each area within the live/work unit.~~

(Portions of proposal not shown remain unchanged)

Commenter's Reason: To clarify the requirements for accessibility. The requirement that each area of the unit meet the accessibility requirements could trigger a requirement for an elevator to the second floor living area of units designed to have the first floor be used as the work area.

Final Hearing Results

G92-06/07, Part I
G92-06/07, Part II

AMPC1
AS

Code Change No: **G131-06/07**

Original Proposal

Sections: 508.2, 508.2.1, 508.2.2, 508.2.2.1, 508.2.3, 407.2.1, 407.2.3, 706.3.6, 706.3.8, 706.5, [F] 903.2.13 (IFC 903.2.13), [F] Table 903.2.13 (IFC Table 903.2.13), 3410.6.18 (IEBC [B] 1301.6.19), Table 3410.6.18 (IEBC [B] Table 1301.6.19)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

508.2 Incidental uses. Incidental ~~use areas~~ uses shall comply with the provisions of this section.

Exception: Incidental ~~use areas~~ uses within and serving a dwelling unit are not required to comply with this section.

508.2.1 Occupancy classification. An incidental use area shall be classified in accordance with the occupancy of that portion of the building in which it is located or the building shall be classified as a mixed occupancy and shall comply with Section 508.3.

508.2.2 Separation. Incidental ~~use areas~~ uses shall be separated or protected, or both, in accordance with Table 508.2.

508.2.2.1 Construction. Where Table 508.2 requires a fire-resistance-rated separation, the incidental ~~use areas~~ use shall be separated from the remainder of the building by a fire barrier constructed in accordance with Section 706 or a horizontal assembly constructed in accordance with Section 711, or both. Where Table 508.2 permits an automatic fire-extinguishing system without a fire barrier, the incidental use area shall be separated from the remainder of the building by construction capable of resisting the passage of smoke. The partitions shall extend from the floor to the underside of the fire-resistance-rated floor/ceiling assembly or fire-resistance-rated roof/ceiling ceiling assembly above or to the underside of the floor or roof sheathing, or sub deck above. Doors shall be self- or automatic closing upon detection of smoke. Doors shall not have air transfer openings and shall not be undercut in excess of the clearance permitted in accordance with NFPA 80.

508.2.3 Protection. Where an automatic fire-extinguishing system or an automatic sprinkler system is provided in accordance with Table 508.2, only the areas of the incidental ~~uses areas~~ need be equipped with such a system.

407.2.1 Spaces of unlimited area. Waiting areas and similar spaces constructed as required for corridors shall be permitted to be open to a corridor, only where all of the following criteria are met:

1. The spaces are not occupied for patient sleeping units, treatment rooms, hazardous or incidental ~~use areas~~ uses as defined in accordance with Section 508.2.
2. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
3. The corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
4. The space is arranged so as not to obstruct access to the required exits.

407.2.3 Mental health treatment areas. Areas wherein mental health patients who are not capable of self-preservation are housed, or group meeting or multipurpose therapeutic spaces other than incidental ~~use areas~~ uses as defined in accordance with Section 508.2, under continuous supervision by facility staff, shall be permitted to be open to the corridor, where the following criteria are met:

1. Each area does not exceed 1,500 square feet (140 m²).
2. The area is located to permit supervision by the facility staff.
3. The area is arranged so as not to obstruct any access to the required exits.
4. The area is equipped with an automatic fire detection system installed in accordance with Section 907.2.
5. Not more than one such space is permitted in any one smoke compartment.
6. The walls and ceilings of the space are constructed as required for corridors.

706.3.6 Incidental use areas. The fire barrier separating incidental ~~use areas~~ uses from other spaces in the building shall have a fire-resistance rating of not less than that indicated in Table 508.2.

706.3.8 Separation of mixed Separated occupancies. Where the provisions of Section 508.3.3 are applicable, the fire barrier separating mixed occupancies shall have a fire-resistance rating of not less than that indicated in ~~Section~~ Table 508.3.3 based on the occupancies being separated.

706.5 Continuity. Fire barriers shall extend from the top of the floor/ceiling assembly below to the underside of the floor or roof slab or deck above and shall be securely attached thereto. Such fire barriers shall be continuous through concealed spaces, such as the space above a suspended ceiling. The supporting construction for fire barrier walls shall be protected to afford the required fire-resistance rating of the fire barrier supported, except for 1-hour ~~fire-resistance-rated incidental use area separations as fire barriers~~ required by Table 508.2 in buildings of Type IIB, IIIB and VB construction. Hollow vertical spaces within a fire barrier shall be fireblocked in accordance with Section 717.2 at every floor level.

Exceptions:

1. The maximum required fire-resistance rating for assemblies supporting fire barriers separating tank storage as provided for in Section 415.6.2.1 shall be 2 hours, but not less than required by Table 601 for the building construction type.
2. Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 707.12.

[F] 903.2.13 (IFC 903.2.13) Other required suppression systems. In addition to the requirements of Section 903.2, the provisions indicated in Table 903.2.13 also require the installation of a suppression system for certain buildings and areas.

**[F] TABLE 903.2.13 (IFC TABLE 903.2.13)
ADDITIONAL REQUIRED SUPPRESSION SYSTEMS**

SECTION	SUBJECT
508.2	Incidental use areas <u>uses</u>

(Portion of table not shown do not change)

3410.6.18 (IEBC 1301.6.19) Incidental use. Evaluate the protection of incidental ~~use areas~~ uses in accordance with Section 508.2. Do not include those where this code requires suppression throughout the building including covered mall buildings, high-rise buildings, public garages and unlimited area buildings. Assign the lowest score from Table 3410.6.18 for the building or fire area being evaluated. If there are no specific occupancy areas in the building or fire area being evaluated, the value shall be zero.

**TABLE 3410.6.18 (IEBC TABLE 1301.6.19)
INCIDENTAL USE AREA VALUES^a**

(No changes to table text)

Reason: The purpose of this proposal is to separate the concept of an incidental use from the area of the building in which it is located. An incidental use is an area of special hazard within a separated occupancy. Its use poses a special hazard to the other uses within the separated occupancy. The provisions for accessory occupancies, nonseparated occupancies and separated occupancies are associated with the provisions for incidental uses. Each set of provisions covers classification of the occupancies, limits on areas and heights, and separations (i.e., fire barriers). Specifying incidental use areas as incidental uses will align them with their associated occupancies each of which has separate requirements applicable to its area.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Section 706.3.6 is being revised because the current language implies that the fire barrier separates incidental use areas from each other not necessarily from other spaces in the building (i.e., main occupancies). Reference to “other spaces” is being done for consistency with the same term in Section 508.3.2.1.

In Section 706.3.8, “mixed occupancies” is changed to “separated occupancies” to recognize that, according to Section 508.3, mixed occupancies consist of accessory occupancies, nonseparated occupancies and separated occupancies.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis. While some sections listed are typically the purview of other committees, for consistency, the General Committee will make the determination for entire proposal.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Concern that essential exceptions such as item 2 that allow assembly spaces in Group E occupancies to be considered as part of the Group E occupancy would be lost.

Assembly Action:

None

Final Hearing Results

G131-06/07

AS

Code Change No: G221-06/07

Original Proposal

Chapters 1 and 2

Proponent: Lawrence Brown, CBO, National Association of Home Builders

THIS PROPOSAL IS ON THE AGENDA OF THE IBC GENERAL, IEBC, IECC, IFC, IFGC, IMC, IPC, IPSDC, IRC BUILDING/ENERGY, IWUIC AND IZC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

Revise chapters as follows:

PART I – IBC GENERAL

Unless otherwise noted, the section numbers shown below are inclusive of all subsections as shown in the 2006 Codes, Chapter 1. Only those sections that have been divided into two separate chapters are noted below with the proposed new subsection number (applies to all codes represented in this code change proposal).

CHAPTER 1 **ADMINISTRATION**

SECTION 101 **GENERAL**

101.1 Title.

(All other Subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102 403 **DEPARTMENT OF BUILDING SAFETY**

**SECTION ~~103~~ 404
DUTIES AND POWERS OF BUILDING OFFICIAL****SECTION ~~104~~ 405
PERMITS****SECTION ~~105~~ 407
TEMPORARY STRUCTURES AND USES**

105.1 ~~407.4~~ Permits General. The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The building official is authorized to grant extensions for demonstrated cause.

105.2 ~~407.4~~ Termination of approval. The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

**SECTION ~~106~~ 408
FEES****SECTION ~~107~~ 409
INSPECTIONS****SECTION ~~108~~ 440
CERTIFICATE OF OCCUPANCY****SECTION ~~109~~ 444
SERVICE UTILITIES****SECTION ~~110~~ 442
BOARD OF APPEALS****SECTION ~~111~~ 443
VIOLATIONS****SECTION ~~112~~ 444
STOP WORK ORDER****CHAPTER 2
SCOPE AND APPLICATION****SECTION ~~201~~ 404
SCOPE AND GENERAL REQUIREMENTS**

201.1 ~~404.2~~ Scope.

201.2 ~~404.2.1~~ Appendices.

201.3 ~~404.3~~ Intent.

201.4 ~~404.4~~ Referenced codes.

**SECTION ~~202~~ 402
APPLICABILITY****SECTION ~~203~~ 406
CONSTRUCTION DOCUMENTS****SECTION ~~204~~ 407
TEMPORARY STRUCTURES AND USES**

204.1 ~~407.2~~ Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure public health, safety and general welfare.

204.2 407.3 Temporary power. The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the *International Code Council Electrical Code Administrative Provisions*.

**SECTION 205 445
UNSAFE STRUCTURES AND EQUIPMENT**

PART II – IEBC

**CHAPTER 1
ADMINISTRATION**

**SECTION 101
GENERAL**

101.1 Title.
(All other subsections of Section 101 moved into new Chapter 2, Section 201)

**SECTION 102 403
DEPARTMENT OF BUILDING SAFETY**

**SECTION 103 404
DUTIES AND POWERS OF CODE OFFICIAL**

**SECTION 104 405
PERMITS**

**SECTION 105 407
TEMPORARY STRUCTURES AND USES**

105.1 407.4 Permits General. The code official is authorized to issue a permit for temporary uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

105.2 407.4 Termination of approval. The code official is authorized to terminate such permit for a temporary use and to order the temporary use to be discontinued.

**SECTION 105 406
INSPECTIONS**

**SECTION 106 408
FEES**

**SECTION 107 409
INSPECTIONS**

**SECTION 108 440
CERTIFICATE OF OCCUPANCY**

**SECTION 109 442
BOARD OF APPEALS**

**SECTION 110 443
VIOLATIONS**

**SECTION 111 444
STOP WORK ORDER**

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 104
SCOPE AND GENERAL REQUIREMENTS

201.1 104.2 Scope.

201.2 104.3 Intent.

201.3 104.4 Applicability.

201.4 104.5 Compliance methods.

201.5 104.6 Safeguards during construction.

201.6 104.7 Appendices.

201.7 104.8 Correction of violations of other codes.

SECTION 202 102
APPLICABILITY

SECTION 203 106
CONSTRUCTION DOCUMENTS

SECTION 204 107
TEMPORARY STRUCTURES AND USES

204.1 107.2 **Conformance.** Temporary uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

204.2 107.3 **Temporary power.** The code official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the *International Code Council Electrical Code Administrative Provisions*.

SECTION 205 114
SERVICE UTILITIES

SECTION 206 115
UNSAFE BUILDINGS AND EQUIPMENT

SECTION 207 116
EMERGENCY MEASURES

SECTION 208 117
DEMOLITION

(Renumber subsequent chapters)

PART III – IECC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL SCOPE AND GENERAL REQUIREMENTS

101.1 Title.

(All other subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102 105
INSPECTIONS

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 ~~401~~
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~401.2~~ Scope.

201.2 ~~401.3~~ Intent.

201.3 ~~401.4~~ Applicability.

201.4 ~~401.5~~ Compliance.

SECTION 202 ~~402~~
MATERIALS, SYSTEMS AND EQUIPMENT

SECTION 203 ~~403~~
ALTERNATE MATERIALS – METHOD OF CONSTRUCTION, DESIGN OR INSULATING SYSTEMS

SECTION 204 ~~404~~
CONSTRUCTION DOCUMENTS

SECTION 205 ~~406~~
VALIDITY

SECTION 206 ~~407~~
REFERENCED STANDARDS

(Renumber subsequent chapters)

PART IV – IFC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title.

(All other subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102 ~~403~~
DEPARTMENT OF FIRE PREVENTION

SECTION 103 ~~404~~
GENERAL AUTHORITY AND RESPONSIBILITIES

SECTION 104 ~~405~~
PERMITS

SECTION 105 ~~406~~
INSPECTIONS

SECTION 106 ~~408~~
BOARD OF APPEALS

SECTION 107 ~~409~~
VIOLATIONS

SECTION 108 ~~411~~
STOP WORK ORDER

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 104
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~104.2~~ Scope.
201.2 ~~104.2-1~~ Appendices.
201.3 ~~104.3~~ Intent.
201.4 ~~104.4~~ Severability.
201.5 ~~104.5~~ Validity.

SECTION 202 102
APPLICABILITY

SECTION 203 107
MAINTENANCE

SECTION 204 110
UNSAFE BUILDINGS

(Renumber subsequent chapters)

PART V – IFGC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title.
 (All other Subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102 103
DEPARTMENT OF INSPECTION

SECTION 103 104
DUTIES AND POWERS OF CODE OFFICIAL

SECTION 104 106
PERMITS

SECTION 105 107
INSPECTION AND TESTING

SECTION 106 108
VIOLATIONS

SECTION 107 109
MEANS OF APPEAL

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 104
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~104.2~~ Scope.
201.2 ~~104.3~~ Appendices.
201.3 ~~104.4~~ Intent.
201.4 ~~104.5~~ Severability.

SECTION ~~202~~ ~~402~~
APPLICABILITY

SECTION ~~203~~ ~~405~~
APPROVAL

(Renumber subsequent chapters)

PART VI – IMC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title.

(All other Subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION ~~102~~ ~~403~~
DEPARTMENT OF MECHANICAL INSPECTION

SECTION ~~103~~ ~~404~~
DUTIES AND POWERS OF CODE OFFICIAL

SECTION ~~104~~ ~~406~~
PERMITS

SECTION ~~105~~ ~~407~~
INSPECTIONS AND TESTING

SECTION ~~106~~ ~~408~~
VIOLATIONS

SECTION ~~107~~ ~~409~~
MEANS OF APPEAL

CHAPTER 2
SCOPE AND APPLICATION

SECTION ~~201~~ ~~401~~
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~401.2~~ Scope.

201.2 ~~401.2.1~~ Appendices.

201.3 ~~401.3~~ Intent.

201.4 ~~401.4~~ Severability.

SECTION ~~202~~ ~~402~~
APPLICABILITY

SECTION ~~203~~ ~~405~~
APPROVAL

(Renumber subsequent chapters)

PART VII – IPC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title. These regulations shall be known as the *International Plumbing Code* of [NAME OF JURISDICTION] hereinafter referred to as “this code.”

SECTION ~~403~~ 102
DEPARTMENT OF PLUMBING INSPECTION

SECTION ~~404~~ 103
DUTIES AND POWERS OF THE CODE OFFICIAL

SECTION ~~406~~ 104
PERMITS

SECTION ~~407~~ 105
INSPECTIONS AND TESTING

SECTION ~~408~~ 106
VIOLATIONS

SECTION ~~409~~ 107
MEANS OF APPEAL

CHAPTER 2
DEFINITIONS SCOPE AND APPLICATION

SECTION 201
SCOPE AND GENERAL REQUIREMENTS

401.2 201.1 Scope.
401.3 201.2 Intent.
401.4 201.3 Severability.

SECTION ~~402~~ 202
APPLICABILITY

SECTION ~~405~~ 203
APPROVAL

(Renumber subsequent chapters)

PART XIII – IPMC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title.
 (All other Subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102 ~~403~~
DEPARTMENT OF PROPERTY MAINTENANCE INSPECTION

SECTION 103 ~~404~~
DUTIES AND POWERS OF CODE OFFICIAL

SECTION 104 ~~406~~
VIOLATIONS

SECTION 105 ~~407~~
NOTICES AND ORDERS

SECTION 107 414
MEANS OF APPEAL

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 404
SCOPE AND GENERAL REQUIREMENTS

201.1 404.2 Scope.
201.2 404.3 Intent.
201.3 404.4 Severability.

SECTION 202 402
APPLICABILITY

SECTION 203 405
APPROVAL

SECTION 204 408
UNSAFE STRUCTURES AND EQUIPMENT

SECTION 205 409
EMERGENCY MEASURES

SECTION 206 410
DEMOLITION

(Renumber subsequent chapters)

PART IX – IPSDC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL SCOPE AND GENERAL REQUIREMENTS

101.1 Title.
(All other Subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102 403
DEPARTMENT OF PRIVATE SEWAGE DISPOSAL INSPECTION

SECTION 103 404
DUTIES AND POWERS OF THE CODE OFFICIAL

SECTION 104 406
PERMITS

SECTION 105 407

SECTION 106 408
VIOLATIONS

SECTION 107 409
APPEAL

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 404
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~101.2~~ Scope.

201.2 ~~101.6~~ Intent. (Moved up from current 101.6)

201.3 ~~101.3~~ Public sewer connection.

201.4 ~~101.4~~ Abandoned systems.

201.5 ~~101.5~~ Failing system.

201.6 ~~101.7~~ Severability.

**SECTION 202 ~~102~~
APPLICABILITY**

**SECTION 203 ~~105~~
APPROVAL**

(Renumber subsequent chapters)

PART X – IRC BUILDING/ENERGY

Part I — Administrative

**CHAPTER 1
ADMINISTRATION**

**SECTION R101
GENERAL TITLE, SCOPE AND PURPOSE**

R101.1 Title.

**SECTION R102 ~~R103~~
DEPARTMENT OF BUILDING SAFETY**

**SECTION R103 ~~R104~~
DUTIES AND POWERS OF THE
BUILDING OFFICIAL**

**SECTION R104 ~~R105~~
PERMITS**

**SECTION R105 ~~R107~~
TEMPORARY STRUCTURES AND USES**

R107.1 General. The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The building official is authorized to grant extensions for demonstrated cause.

R107.4 Termination of approval. The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

**SECTION R106 ~~R108~~
FEES**

**SECTION R107 ~~R109~~
INSPECTIONS**

**SECTION R108 ~~R110~~
CERTIFICATE OF OCCUPANCY**

**SECTION R109 ~~R112~~
BOARD OF APPEALS**

**SECTION R110 ~~R113~~
VIOLATIONS**

**SECTION R111 ~~R114~~
STOP WORK ORDER**

CHAPTER 2
SCOPE AND APPLICATION

SECTION R201
SCOPE AND GENERAL REQUIREMENTS

R201.1 ~~R401.2~~ **Scope.**
R201.2 ~~R401.3~~ **Purpose.**

SECTION R202 ~~R402~~
APPLICABILITY

SECTION R203 ~~R406~~
CONSTRUCTION DOCUMENTS

SECTION R204 ~~R407~~
TEMPORARY STRUCTURES AND USES

R204.1 ~~R407.2~~ **Conformance.** Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

R204.2 ~~R407.3~~ **Temporary power.** The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the *International Code Council Electrical Code Administrative Provisions*.

SECTION R205 ~~R444~~
SERVICE UTILITIES

(Renumber subsequent chapters)

PART XI – IWUIC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title.
(All other Subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102
AUTHORITY OF THE CODE OFFICIAL

SECTION 103 ~~404~~
APPEALS

SECTION 104 ~~405~~
PERMITS

SECTION 105 ~~407~~
INSPECTIONS AND ENFORCEMENT

SECTION 106 ~~408~~
CERTIFICATION

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 ~~404~~
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~404.2~~ Scope.
201.2 ~~404.3~~ Objective.
201.3 ~~404.4~~ Retroactivity.
201.4 ~~404.5~~ Additions and alterations.
201.5 ~~404.6~~ Maintenance.

SECTION 202 ~~403~~
COMPLIANCE ALTERNATIVES

SECTION 203 ~~406~~
PLANS AND SPECIFICATIONS

(Renumber subsequent chapters)

PART XII – IZC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title.
(All other Subsections of Section 101 moved into new Chapter 2, Section 201)

SECTION 102
FEES

SECTION 103 ~~404~~
DUTIES AND POWERS OF CODE OFFICIAL

SECTION 104 ~~405~~
PLANNING COMMISSION

SECTION 105 ~~406~~
COMPLIANCE WITH THE CODE

SECTION 106 ~~407~~
BOARD OF ADJUSTMENT

SECTION 107 ~~408~~
HEARING EXAMINER

SECTION 108 ~~409~~
HEARINGS, APPEALS AND AMENDMENTS

SECTION 109 ~~440~~
VIOLATIONS

SECTION 110 ~~444~~
PERMITS AND APPROVALS

CHAPTER 2
SCOPE AND APPLICATION

SECTION 201 ~~404~~
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~401.3~~ Scope.

201.2 ~~401.4~~ Intent.

**SECTION 202 ~~403~~
EXISTING BUILDINGS AND USES**

(Renumber subsequent chapters)

Reason: This proposal separates out the “Scoping” and “Application” provisions from the “Administration” provisions of Chapter 1, and places them in a new Chapter 2. As the code grows, the first chapter is becoming a catch-all for the administrative provisions needed to enforce the code. As many jurisdiction are required to drastically modify or completely revise Chapter 1 to coordinate with the jurisdiction’s codified ordinances or other state and local administrative law, having these non-administrative provisions in a separate chapter will help retain the scoping, application, and intent of this code’s provisions when the code is adopted.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC GENERAL

Committee Action:

Disapproved

Committee Reason: A modification consistent with the actions taken by other committees was not presented to the committee therefore as currently proposed it was not acceptable. One specific concern about the published proposal was that permits would be addressed in a different chapter than construction documents.

Assembly Action:

None

PART II – IEBC

Committee Action:

Approved as Modified

Replace the proposal with the following:

**CHAPTER 1
SCOPE AND ADMINISTRATION**

Part 1 – Scope and Application

**SECTION 101
GENERAL**

**SECTION 102
APPLICABILITY**

Part 2 – Administration and Enforcement

**SECTION 103
DEPARTMENT OF BUILDING SAFETY**

Committee Reason: The committee agreed that separating scoping and application provisions from administrative provisions within Chapter 1 of the IEBC was appropriate and allowed for jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts versus two separate Chapters. This modification eliminates a massive chapter and section reference re-numbering requirement throughout the I-codes that would be a possible source of confusion and future errata.

Assembly Action:

None

PART III – IECC

Committee Action:

Approved as Modified

Replace the current proposal with the following:

**CHAPTER 1
SCOPE AND ADMINISTRATION**

Part 1 – Scope and Application

**SECTION 101
SCOPE AND GENERAL REQUIREMENTS**

**SECTION 102
MATERIALS, SYSTEMS AND EQUIPMENT**

**SECTION 103
ALTERNATE MATERIALS – METHOD OF CONSTRUCTION, DESIGN OR INSULATING SYSTEMS**

Part 2 – Administration and Enforcement

**SECTION 104
CONSTRUCTION DOCUMENTS**

**SECTION 105
INSPECTIONS**

**SECTION 106
VALIDITY**

**SECTION 107
REFERENCED STANDARDS**

Committee Reason: The committee agreed with the proponent that separation of the administrative requirements from the scope and intent requirements avoids losing the scope and intent statements when a jurisdiction modifies the administrative requirements, as is often done. This modification eliminates a massive chapter and section reference re-numbering and correlation requirement throughout the I-codes that would be a possible source of confusion and future errata.

Assembly Action:

None

PART IV – IFC

Committee Action:

Approved as Modified

Replace the proposal with the following:

Revise Chapter 1 arrangement as follows:

**CHAPTER 1
SCOPE AND ADMINISTRATION**

Part 1 – General Provisions

Section 101 Scope and General Requirements

Section 102 Applicability

Part 2 – Administrative Provisions

Section 103 Department of Fire Prevention

Section 104 General Authority and Responsibilities

Section 105 Permits

Section 106 Inspections

Section 107 Maintenance

Section 108 Board of Appeals

Section 109 Violations

Section 110 Unsafe Buildings

Section 111 Stop Work Order

Committee Reason: The committee agreed that separating scoping and application provisions from administrative provisions within Chapter 1 of the IFC was appropriate and allowed for jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts versus two separate chapters. This modification eliminates a massive chapter and section reference re-numbering and correlation requirement throughout the I-codes that would be a possible source of confusion and future errata.

Assembly Action:

None

PART V – IFGC

Committee Action:

Approved as Modified

Replace the current proposal with the following:

CHAPTER 1
SCOPE AND ADMINISTRATION

Part 1 – Scope and Application

SECTION 101
GENERAL

SECTION 102
APPLICABILITY

Part 2 – Administration and Enforcement

SECTION 103
DEPARTMENT OF INSPECTION

SECTION 104
DUTIES AND POWERS OF CODE OFFICIAL

SECTION 105
APPROVAL

SECTION 106
PERMITS

SECTION 107
INSPECTIONS AND TESTING

SECTION 108
VIOLATIONS

SECTION 109
MEANS OF APPEAL

Committee Reason: Many jurisdictions delete or modify chapter one of the ICC codes and in doing so, may lose some needed code text. Separating scoping and application provisions from administrative provisions within Chapter 1 of the IFGC is appropriate and allows jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts of Chapter one instead of creating two separate chapters. This modification eliminates the massive task of re-numbering all sections and section references throughout the ICC codes. Such re-numbering would be a likely source of confusion and future errata.

Assembly Action:

None

PART VI – IMC

Committee Action:

Approved as Modified

Replace the proposal with the following:

CHAPTER 1
SCOPE AND ADMINISTRATION

Part 1 – Scope and Application

SECTION 101
GENERAL

SECTION 102
APPLICABILITY

Part 2 – Administration and Enforcement

SECTION 103
DEPARTMENT OF MECHANICAL INSPECTION

SECTION 104
DUTIES AND POWERS OF CODE OFFICIAL

SECTION 105
APPROVAL

SECTION 106
PERMITS

**SECTION 107
INSPECTIONS AND TESTING**

**SECTION 108
VIOLATIONS**

**SECTION 109
MEANS OF APPEAL**

Committee Reason: This change provides a needed reorganization of Chapter 1 which will allow local jurisdictions to revise or delete the Administration and Enforcement portion of the chapter without losing the Scope and Application requirements. The modification moves the proposed Chapter 2 to a new section in Chapter 1, Scope and Application, to avoid renumbering all subsequent chapters of the IMC.

Assembly Action: **None**

**PART VII — IPC
Committee Action:**

Approved as Modified

Replace the proposal with the following:

**CHAPTER 1
SCOPE AND ADMINISTRATION**

Part 1 – Scope and Application

**SECTION 101
GENERAL**

**SECTION 102
APPLICABILITY**

Part 2 – Administration and Enforcement

**SECTION 103
DEPARTMENT OF PLUMBING INSPECTION**

**SECTION 104
DUTIES AND POWERS OF CODE OFFICIAL**

**SECTION 105
APPROVAL**

**SECTION 106
PERMITS**

**SECTION 107
INSPECTIONS**

**SECTION 108
VIOLATIONS**

**SECTION 109
MEANS OF APPEAL**

Committee Reason: Many jurisdictions delete or modify chapter one of the ICC codes and in doing so, may lose some needed code text. Separating scoping and application provisions from administrative provisions within Chapter 1 of the IFGC is appropriate and allows jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts of Chapter one instead of creating two separate chapters. This modification eliminates the massive task of re-numbering all sections and section references throughout the ICC codes. Such re-numbering would be a likely source of confusion and future errata.

Assembly Action: **None**

**PART VIII — IPMC
Committee Action:**

Approved as Modified

Replace the proposal with the following:

**CHAPTER 1
SCOPE AND ADMINISTRATION**

Part 1 – Scope and Application

**SECTION 101
GENERAL**

**SECTION 102
APPLICABILITY**

Part 2 – Administration and Enforcement

**SECTION 103
DEPARTMENT OF PROPERTY MAINTENANCE INSPECTION**

**SECTION 104
DUTIES AND POWERS OF CODE OFFICIAL**

**SECTION 105
APPROVAL**

**SECTION 106
VIOLATIONS**

**SECTION 107
NOTICES AND ORDERS**

**SECTION 108
UNSAFE STRUCTURES AND EQUIPMENT**

**SECTION 109
EMERGENCY MEASURES**

**SECTION 110
DEMOLITION**

**SECTION 111
MEANS OF APPEAL**

Committee Reason: The committee agreed that separating scoping and application provisions from administrative provisions within Chapter 1 of the IPMC was appropriate and allowed for jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts versus two separate Chapters. This modification eliminates a massive chapter and section reference re-numbering requirement throughout the I-codes that would be a possible source of confusion and future errata.

Assembly Action:

None

**PART IX – IPSDC
Committee Action:**

Approved as Modified

Replace the proposal with the following:

**CHAPTER 1
SCOPE AND ADMINISTRATION**

Part 1 – Scope and Application

**SECTION 101
GENERAL**

**SECTION 102
APPLICABILITY**

Part 2 – Administration and Enforcement

**SECTION 103
DEPARTMENT OF PRIVATE SEWAGE DISPOSAL INSPECTION**

**SECTION 104
DUTIES AND POWERS OF CODE OFFICIAL**

**SECTION 105
APPROVAL**

**SECTION 106
PERMITS**

**SECTION 107
INSPECTIONS**

**SECTION 108
VIOLATIONS**

**SECTION 109
MEANS OF APPEAL**

Committee Reason: Many jurisdictions delete or modify chapter one of the ICC codes and in doing so, may lose some needed code text.. Separating scoping and application provisions from administrative provisions within Chapter 1 of the IFGC is appropriate and allows jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts of Chapter one instead of creating two separate chapters. This modification eliminates the massive task of re-numbering all sections and section references throughout the ICC codes. Such re-numbering would be a likely source of confusion and future errata.

Assembly Action:

None

PART X – IRC

Committee Action:

Approved as Modified

Replace the proposal with the following:

**CHAPTER 1
SCOPE AND ADMINISTRATION**

Part 1 – Scope and Application

**SECTION 101
GENERAL TITLE, SCOPE AND PURPOSE**

**SECTION 102
APPLICABILITY**

Part 2 – Administration and Enforcement

**SECTION 103
DEPARTMENT OF BUILDING SAFETY**

**SECTION 104
DUTIES AND POWERS OF BUILDING OFFICIAL**

**SECTION 105
PERMITS**

**SECTION 106
CONSTRUCTION DOCUMENTS**

**SECTION 107
TEMPORARY STRUCTURES AND USES**

**SECTION 108
FEES**

**SECTION 109
INSPECTIONS**

**SECTION 110
CERTIFICATE OF OCCUPANCY**

**SECTION 111
SERVICE UTILITIES**

**SECTION 112
BOARD OF APPEALS**

**SECTION 113
VIOLATIONS**

**SECTION 114
STOP WORK ORDER**

Committee Reason: The committee agreed that separating scoping and application provisions from administrative provisions within Chapter 1 of the IRC was appropriate and allowed for jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts versus two separate chapters. This modification eliminates a massive chapter and section reference re-numbering requirement throughout the I-codes that would be a possible source of confusion and future errata.

Assembly Action:

None

PART XI –IWUIC

Committee Action:

Approved as Modified

Replace the proposal with the following:

Revise Chapter 1 arrangement as follows:

CHAPTER 1
SCOPE AND ADMINISTRATION

Part 1 – General Provisions

Section 101 Scope and General Requirements

Part 2 – Administrative Provisions

Section 102 Authority of the Code Official

Section 103 Compliance Alternatives

Section 104 Appeals

Section 105 Permits

Section 106 Plans and Specifications

Section 107 Inspection and Enforcement

Section 108
Certificate of Completion

Committee Reason: The committee agreed that separating scoping and application provisions from administrative provisions within Chapter 1 of the IWUIC was appropriate and allowed for jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts versus two separate chapters. This modification eliminates a massive chapter and section reference re-numbering and correlation requirement throughout the I-codes that would be a possible source of confusion and future errata.

Assembly Action:

None

PART XII –IZC

Committee Action:

Approved as Modified

Replace the proposal with the following:

CHAPTER 1
SCOPE AND ADMINISTRATION

Part 1 – Scope and Application

SECTION 101
GENERAL

SECTION ~~403~~ 102
EXISTING BUILDINGS AND USES

Part 2 – Administration and Enforcement

SECTION ~~404~~ 103
DUTIES AND POWERS OF THE ZONING CODE OFFICIAL

SECTION ~~405~~ 104
PLANNING COMMISSION

SECTION ~~406~~ 105
COMPLIANCE WITH THE CODE

SECTION ~~407~~ 106
BOARD OF ADJUSTMENT

SECTION ~~408~~ 107
HEARING EXAMINER

SECTION ~~409-108~~
HEARINGS, APPEALS AND AMENDMENTS

SECTION ~~440-109~~
VIOLATIONS

SECTION ~~444-110~~
PERMITS AND APPROVALS

SECTION ~~402-111~~
FEES

Committee Reason: The committee agreed that separating scoping and application provisions from administrative provisions within Chapter 1 of the IZC was appropriate and allowed for jurisdictions to modify the administrative provisions as required by their local laws while easily retaining the scoping, application and intent provisions of the code. The modification allows for two separate parts versus two separate Chapters. This modification eliminates a massive chapter and section reference re-numbering requirement throughout the I-codes that would be a possible source of confusion and future errata.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Lawrence Brown, CBO, National Association of Home Builders, requests Approval as Modified by this public comment for Part I.

Replace proposal with the following:

CHAPTER 1
SCOPE AND ADMINISTRATION

Part 1 – Scope and Application

SECTION 101
GENERAL

SECTION 102
APPLICABILITY

Part 2 – Administration and Enforcement

SECTION 103
DEPARTMENT OF BUILDING SAFETY

SECTION 104
DUTIES AND POWERS OF BUILDING OFFICIAL

SECTION 105
PERMITS

SECTION 106
CONSTRUCTION DOCUMENTS

SECTION 107
TEMPORARY STRUCTURES AND USES

SECTION 108
FEES

SECTION 109
INSPECTIONS

SECTION 110
CERTIFICATE OF OCCUPANCY

SECTION 111
SERVICE UTILITIES

SECTION 112
BOARD OF APPEALS

SECTION 113
VIOLATIONS

SECTION 114
STOP WORK ORDER

SECTION 115
UNSAFE STRUCTURES AND EQUIPMENT

Commenter's Reason: This modification will provide correlation with the modifications accepted by the eleven Code Committees on Parts 2 through 12 of this Proposal. As I was testifying at the other hearing track I was not able to present this modification the IBC-General Code Committee.

Final Hearing Results

G221-06/07, Part I	AMPC1
G221-06/07, Part II	AM
G221-06/07, Part III	AM
G221-06/07, Part IV	AM
G221-06/07, Part V	AM
G221-06/07, Part VI	AM
G221-06/07, Part VII	AM
G221-06/07, Part VIII	AM
G221-06/07, Part IX	AM
G221-06/07, Part X	AM
G221-06/07, Part XI	AM
G221-06/07, Part XII	AM

Code Change No: G223-06/07

Original Proposal

Sections: 506.2.1, 506.3, 507.3, 1013.1 (IFC [B] 1013.1), 3104.3

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

506.2.1 Width limits. The value of “W” ~~must~~ shall be at least 20 feet (6096 mm). Where the value of *W* varies along the perimeter of the building, the calculation performed in accordance with Equation 5-2 shall be based on the weighted average of each portion of exterior wall and open space where the value of *W* is greater than or equal to 20 feet (6096 mm). Where the value of *W* exceeds 30 feet (9144 mm), a value of 30 feet (9144 mm) shall be used in calculating the weighted average, regardless of the actual width of the open space.

Exception: The quantity value of *W* divided by 30 shall be permitted to be a maximum of 2 when the building meets all requirements of Section 507 except for compliance with the 60-foot (18 288 mm) public way or yard requirement, as applicable.

506.3 Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the area limitation in Table 503 is permitted to be increased by an additional 200 percent ($I_s = 2$) for buildings with more than one story above grade plane and an additional 300 percent ($I_s = 3$) for buildings with no more than one story above grade plane. These increases are permitted in addition to the height and story increases in accordance with Section 504.2.

Exception: The area limitation increases shall not be permitted for the following conditions:

1. The automatic sprinkler system increase shall not apply to buildings with an occupancy in Use Group H-1.
2. The automatic sprinkler system increase shall not apply to the ~~floor~~ building area of an occupancy in Use Group H-2 or H-3. For ~~mixed-use~~ buildings containing such occupancies, the allowable area shall be ~~calculated~~ determined in accordance with Section 508.3.3.2, with the sprinkler system increase applicable only to the portions of the building not classified as Use Group H-2 or H-3.
3. Fire-resistance rating substitution in accordance with Table 601, Note e.

3. Revise as follows:

507.3 Sprinklered, one story. The area of a one-story, Group B, F, M or S building, or a one-story Group A-4 building, of other than Type V construction, shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.2 and 903.3.1.1 and NFPA 230.
2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
 - 2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and
 - 2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.
3. Group A-1 and A-2 occupancies of other than Type V construction shall be permitted, provided:
 - 3.1. All assembly occupancies are separated from other spaces as required for separated ~~uses~~ occupancies in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;
 - 3.2. Each Group A occupancy shall not exceed the maximum allowable area permitted in Section 503.1; and
 - 3.3. All required exits shall discharge directly to the exterior.

4. Revise as follows:

1013.1 Where required. Guards shall be located along open-sided walking surfaces, mezzanines, ~~industrial~~ equipment platforms, stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below. Guards shall be adequate in strength and attachment in accordance with Section 1607.7. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Guards shall also be located along glazed sides of stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below where the glazing provided does not meet the strength and attachment requirements in Section 1607.7.

Exception: Guards are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1025.14 are permitted and provided.

5. Revise as follows:

3104.3 Construction. The pedestrian walkway shall be of noncombustible construction.

Exceptions:

1. Combustible construction shall be permitted where connected buildings are of combustible construction.
2. Fire-retardant-treated wood, in accordance with Table 601, Note e-d, shall be permitted for the roof construction of the pedestrian walkway where connected buildings are ~~a minimum of~~ Type I or II construction.

Reason:

1. Internal consistency with revisions approved by code change proposal G113-04/05(AM).
2. Consistency with revisions approved by code change proposal G14-04/05(AMPC1) plus editorial suggestions.
3. Consistency with revisions approved by code change proposal G14-04/05(AMPC1).
4. Consistency with the other deletions approved by code change proposal G88-04/05(AS).
5. First change is for consistency with revisions approved by code change proposal G158-04/05(AMPC1). Second change is because the phrase is superfluous.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Based upon proponents request. See committee reason for G10-06/07

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Philip Brazil, PE, Reid Middleton, Inc., representing himself requests Approval as Modified by this public comment.

Replace proposal with the following:

506.2.1 Width limits. ~~The value of "W" must shall~~ be at least 20 feet (6096 mm). Where the value of *W* varies along the perimeter of the building, the calculation performed in accordance with Equation 5-2 shall be based on the weighted average of each portion of exterior wall and open space where the value of *W* is greater than or equal to 20 feet (6096 mm). Where ~~the value of~~ *W* exceeds 30 feet (9144 mm), a value of 30 feet (9144 mm) shall be used in calculating the weighted average, regardless of the actual width of the open space.

Exception: The ~~quantity value~~ value of *W* divided by 30 shall be permitted to be a maximum of 2 when the building meets all requirements of Section 507 except for compliance with the 60-foot (18 288 mm) public way or yard requirement, as applicable.

506.3 Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the area limitation in Table 503 is permitted to be increased by an additional 200 percent (*I*s = 2) for buildings with more than one story above grade plane and an additional 300 percent (*I*s = 3) for buildings with no more than one story above grade plane. These increases are permitted in addition to the height and story increases in accordance with Section 504.2.

Exception: The area limitation increases shall not be permitted for the following conditions:

1. The automatic sprinkler system increase shall not apply to buildings with an occupancy in ~~Use~~ Group H-1.
2. The automatic sprinkler system increase shall not apply to the ~~floor building~~ area of an occupancy in ~~Use~~ Group H-2 or H-3. For ~~mixed-use~~ buildings containing such occupancies, the allowable area shall be ~~calculated determined~~ in accordance with Section 508.3.3.2, with the sprinkler ~~system~~ increase applicable only to the portions of the building not classified as ~~Use~~ Group H-2 or H-3.
3. Fire-resistance rating substitution in accordance with Table 601, Note e.

507.3 Sprinklered, one story. The area of a one-story, Group B, F, M or S building, or a one-story Group A-4 building, of other than Type V construction, shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Type I and II construction for rack storage facilities that do not have access by the public shall not be limited in height, provided that such buildings conform to the requirements of Sections 507.2 and 903.3.1.1 and NFPA 230.

2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities in occupancies in Group A-4, provided that:
 - 2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas; and
 - 2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.
3. Group A-1 and A-2 occupancies of other than Type V construction shall be permitted, provided:
 - 3.1. All assembly occupancies are separated from other spaces as required for separated ~~uses occupancies~~ in Section 508.3.3.4 with no reduction allowed in the fire-resistance rating of the separation based upon the installation of an automatic sprinkler system;
 - 3.2. Each Group A occupancy shall not exceed the maximum allowable area permitted in Section 503.1; and
 - 3.3. All required exits shall discharge directly to the exterior.

1013.1 Where required. Guards shall be located along open-sided walking surfaces, mezzanines, ~~industrial~~ equipment platforms, stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below. Guards shall be adequate in strength and attachment in accordance with Section 1607.7. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Guards shall also be located along glazed sides of stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below where the glazing provided does not meet the strength and attachment requirements in Section 1607.7.

Exception: Guards are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1025.14 are permitted and provided.

Commenter's Reason: At the 2006/2007 ICC code development hearings in Orlando, I agreed to ask for disapproval in conjunction with the initiative by several organizations to pursue resolution to the ongoing differences over the IBC provisions for allowable building heights and building areas, specifically through the efforts of the ICC Code Technology Committee. At the time of the deadline to submit public comments for consideration at the final action hearings in Rochester, that effort was ongoing. Consequently, I am asking for approval as submitted, except for Item #5, based on the original reason statement.

I am requesting the membership disregard Item #5 because my understanding at the time of the deadline for submittal of public comments was that Section 3104.3, Exception 2, will be corrected by ICC errata.

Staff note: Please note that the errata to Section 3104.3 which will be corrected in the 3rd printing of the 2006 IBC is as follows:

3104.3 Construction. The pedestrian walkway shall be of noncombustible construction.

Exceptions:

1. Combustible construction shall be permitted where connected buildings are of combustible construction.
2. Fire-retardant-treated wood, in accordance with ~~Table 601, Note c~~ Section 603.1, Item 1.3, shall be permitted for the roof construction of the pedestrian walkway where connected buildings are a minimum of Type I or II construction.

Final Hearing Results

G223-06/07

AMPC1

2006 INTERNATIONAL BUILDING CODE DOCUMENTATION MEANS OF EGRESS

Code Change No: **E5-06/07**

Original Proposal

Sections: 1002.1 (IFC [B] 1002.1)

Proponent: Marshall A. Klein, P.E., Marshall A. Klein & Associates, Inc.

Revise definition as follows:

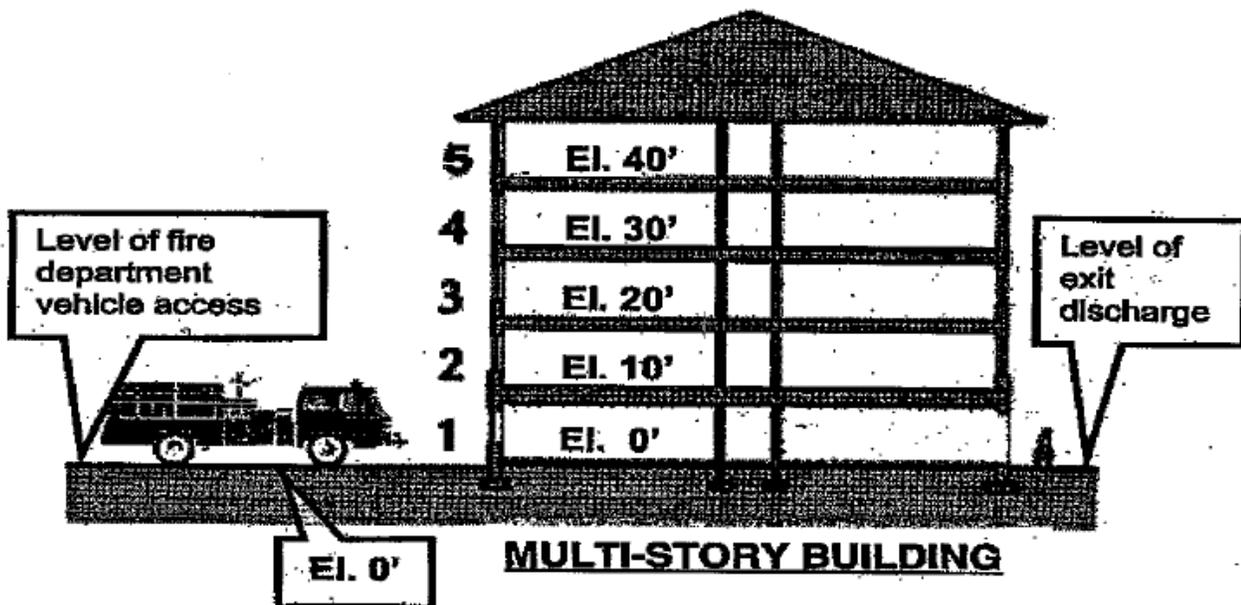
1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

EXIT DISCHARGE, LEVEL OF. The horizontal plane located lowest story at the point at which an exit terminates and an exit discharge begins.

Reason: IFC Formal Interpretations 44-03, 26-03, & 25-03, all issued on 5/11/04, stated the following:

“When determining stories above the lowest level of exit discharge, a level, or floor level, is not a story. A “level” is the horizontal plane that is part of a story, not the entire story height. A “story” is the vertical space between the upper surface of one floor level and the upper surface of the floor level next above or below.”

The level of exit discharge as shown in the attached drawing of a Multi-Story Building is at elevation 0.0', the first floor level of the building is also at elevation 0.0'; therefore, the level of exit discharge and the first floor level of the building are at the same elevation. The first story of the building begins at elevation 0.0' (first floor) and extends to the elevation 10.0' (second floor). The first story of the building is the first story above the level of exit discharge.”



The intent of the “level of exit discharge” definitions in the previous three legacy codes, and in the ICC Codes was to use a similar definition for “level of exit discharge” as was being used in the NFPA 101, “Life Safety Code”, which originally defined this term. Such similar definitions for “level of exit discharged” correlated between model codes and the NFPA Standards for user friendliness. For reference, 2006 NFPA 101 (LSC) defines “level of exit discharge”:

"3.3.72.1 Level of Exit Discharge. (1) The lowest story from which not less than 50 percent of the required number of exits and not less than 50 percent of the required egress capacity from such a story discharge directly outside at grade; (2) the story with the smallest elevation change needed to reach grade where no story has 50 percent or more of the required number of exits and 50 percent or more of the required egress capacity from such a story discharge directly outside at grade."

The major difference between the IFC formal interpretations and the NFPA 101 definition is that NFPA 101 defines the "level of exit discharge" as a volume (story), not as a "horizontal plane". Therefore, in the diagram of the multistory building above, the "first story above the level of exit discharge" under NFPA 101 (and for that matter, as used under the legacy codes) was always considered the second story (El. 10'). However, under the IFC Formal Interpretations, it is now the first story (El. 0").

These formal IFC interpretations have been a rude awakening for many experienced users of the Codes, in particular to some ICC Staff members. Since a different ICC Committee, other than the ICC Means of Egress Code Development Committee, made these interpretations, this code proposal is providing the Means of Egress Code Development Committee its opportunity to "weigh in" on the intent of the Code when it comes to application of this definition.

This code proposal is only attempting to correlate the definition for "level of exit discharge" with the definition in NFPA 101, where the "level of exit discharge" concept came from. I believe that the NFPA 101 definition is a little too wordy for the ICC Codes. My proposed wording appears more than adequate to work for the ICC Codes, and to correlate between the ICC and NFPA Codes.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

EXIT DISCHARGE, LEVEL OF. The ~~lowest~~ story at the point at which an exit terminates and an exit discharge begins.

Committee Reason: The revised language will clarify that the level of exit discharge is the story the occupants are egressing from rather than the floor they are walking on. The modification was made because the story could be the lowest, highest or any level of building.

Assembly Action:

None

Final Hearing Results

E5-06/07

AM

Code Change No: E6-06/07

Original Proposal

Sections: 1002 (New) [IFC [B] 1002 (New)]; IRC R202

Proponent: David W. Cooper, Stairway Manufacturers' Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Add new definition as follows:

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FLIGHT. A continuous run of rectangular treads (fliers) or winders or combination thereof from one landing to another.

PART II – IRC

Add new definition to Section R202 as follows:

FLIGHT. A continuous run of rectangular treads (fliers) or winders or combination thereof from one landing to another.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The purpose of the change is to clarify the code. This proposal will foster a better understanding of what distinguishes a flight from a stairway. This definition is needed because the word “Flight” is used specifically to reference that part of a stairway that is between landings no less than 8 times in IBC 1009 and no less than 9 times in IRC 311.5. Often this word is misinterpreted to be stairs between *floors* causing the extending of handrails across landings, varying determinations of handrail continuity, dimensional uniformity, riser height, and tread depth. Furthermore this will help to clarify a major difference between winders and landings i.e., Landings separate flights within a stairway, winders are treads within a flight and are often combined with fliers in the same flight. Winders do not separate flights.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC

Committee Action:

Approved as Modified

Modify the proposal as follows:

FLIGHT. A continuous run of rectangular treads (~~fliers~~) or winders or combination thereof from one landing to another.

Committee Reason: The definition will clarify the difference between ‘flight’ and when a stairway moves from floor to floor. The term ‘fliers’ was dropped because it was confusing, not commonly used and not needed.

Assembly Action:

None

PART II – IRC

Committee Action:

Approved as Modified

Modify the proposal as follows:

FLIGHT. A continuous run of rectangular treads (~~fliers~~) or winders or combination thereof from one landing to another.

Committee Reason: The definition of Flight is a useful addition to Chapter 2 of the *International Residential Code*. The modification was passed by the Means of Egress committee and keeps the definitions consistent in the IBC and IRC.

Assembly Action:

None

Final Hearing Results

E6-06/07, Part I	AM
E6-06/07, Part II	AM

Code Change No: E8-06/07

Original Proposal

Sections: 1003.2 (IFC [B] 1003.2)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1003.2 Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.

3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1009.2.
5. Door height in accordance with Section 1008.1.1.
6. Ramp headroom in accordance with Section 1010.5.2.

Reason: For consistency Section 1003.2 should include ramps in headroom height exceptions. The change is also for coordination with ICC A117.1 Section 307.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Ramps are part of the means of egress, and it is logical to include them in the exceptions for the ceiling height provisions. This will coordinate the IBC requirements with ICC A117.1.

Assembly Action:

None

Final Hearing Results

E8-06/07

AS

Code Change No: E11-06/07

Original Proposal

Sections: 1003.3.2, 1003.3.3, 1003.3.4 (IFC [B] 1003.3.2, [B] 1003.3.3, [B] 1003.3.4)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1003.3.2 Free-standing Post mounted objects. A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the walking surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finished floor or ground.

Exception: ~~This~~ These requirements shall not apply to sloping portions of handrails serving between the top and bottom riser of stairs and above the ramps run.

1003.3.3 Horizontal projections. Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface.

Exception: Handrails ~~serving stairs and ramps~~ are permitted to protrude 4.5 inches (114 mm) from the wall.

1003.3.4 Clear width. Protruding objects shall not reduce the minimum clear width of accessible routes ~~as required in Section 1104.~~

Reason: The concern is to two fold: 1) Not to apply the provisions of Section 1003.3.2 to the portions of the handrails along the stair or ramp run, but to apply those provisions to the handrail extensions. (Ex: A handrail on posts on a grand stairway.) 2) To allow handrails to protrude from the wall but never get less than the 36" wide ramp or route required for accessibility. The change is also for coordination with ICC A117.1 Sections 405 and 307.3. The change to Section 1003.3.4 would cover accessible routes for the way in as well as the way out.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal would add clarity on how to measure ramp width. The proposed language would increase coordination with the ICC A117.1 and new ADA/ABA Accessibility Guidelines.

Assembly Action:

None

Final Hearing Results

E11-06/07

AS

Code Change No: E16-06/07

Original Proposal

Table 1005.1 (IFC [B] Table 1005.1)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise table as follows:

**TABLE 1005.1
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM^a	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	0.7 <u>Not Permitted</u>	0.4 <u>Not Permitted</u>	0.3	0.2
Institutional: I-2	NA <u>Not Permitted</u>	NA <u>Not Permitted</u>	0.3	0.2

For SI: 1 inch = 25.4 mm. NA = Not applicable.

- a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: Table 1005.1 is somewhat misleading in that Group H-1, H-2, H-3 and H-4 occupancies are not permitted in buildings without a sprinkler system according to Section 903.2.4.1. The format of the Institutional occupancy cells has been changed to be consistent with other similar tables in Chapter 10 such as Tables 1016.1 and 1017.1 It should be noted that this proposal was disapproved by the Means of Egress Code Committee during the previous code development cycle. Their rationale for that action was that there are existing, unsprinklered Group H occupancies and those data need to be retained for existing building purposes. If this logic is valid, there are numerous tables and other IBC provisions that need to reflect former requirements. The primary purpose of the International Building Code is to govern the design and construction of new buildings and structures. Its requirements should reflect that purpose. The code in effect at the time an existing building was constructed would be a better reference for prior code requirements, should they be needed. Approval of this proposal would result in technical consistency of International Building Code provisions.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language would provide consistency and clarity to the code for Group H and I-2 requirements.

Assembly Action:

None

Final Hearing Results

E16-06/07

AS

Code Change No: E17-06/07

Original Proposal

Sections: 1005.2 (IFC [B] 1005.2)

Proponent: Ralph Vasami, The Kellen Company, representing The Door Safety Council

Revise as follows:

1005.2 Door encroachment. Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing. ~~When fully open, Excluding hardware,~~ the door shall not project more than 7 inches (178 mm) into the required width when fully opened.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

Reason: This proposal modifies text regarding door encroachment. The existing code language fails to address the issue of hardware that is required as part of the door assembly to satisfy egress and security requirements. The proposed language seeks to clarify the manner in which the *Door Encroachment* language is enforced. Hardware projections should not be part of the measurement as they do not materially reduce the corridor width or impede egress flow.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Based on the testimony, if the hardware can be up to 10 inches from tip to tip, taking away the door and one handle, exclusion of the hardware could result in an additional protrusion of up to 11 inches into the path for means of egress. The 7 inches should include the hardware. In addition, when the door open 90 degrees, the 7 inches is the obstruction, while if it opens 180 degrees, there is credit given for the hardware so it is not a protrusion - this seems inconsistent.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Ralph Vasami, The Kellen Company, representing The Door Safety Council, requests Approval as Modified by this public comment.

Replace proposal with the following:

1005.3 Door hardware encroachment. Surface-mounted latch release hardware shall be exempt from inclusion in the 7-inch maximum (178mm) projection requirement of 1005.2 when:

1. The hardware is mounted to the side of the door facing the corridor width when the door is in the open position and;
2. The hardware is mounted not less than 34 inches (865mm) nor more than 48 inches (1220mm) above the finished floor.

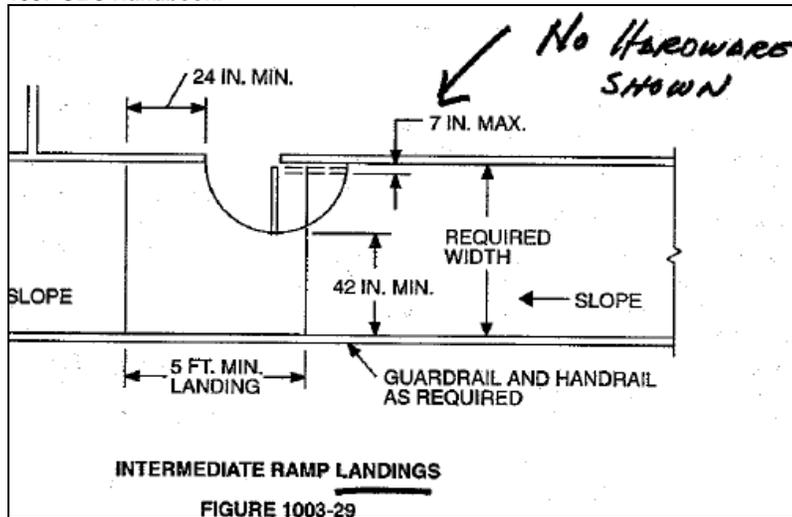
Commenter's Reason: The IFC and IBC requirements for door encroachment have not clearly addressed the issue of attached door latching hardware. The intent of the proposal as submitted was to clarify that door latching hardware should not be included in the dimensional requirement for door encroachment. The committee discussion and stated reasons for disapproval of E17 demonstrate the confusion surrounding this requirement. This public comment separates the door encroachment requirement from hardware, but adds restrictions on the height and mounting surface to capture the appropriate hardware encroachment prescriptions. The additional text is taken from NFPA 101 means of egress requirements.

The best illustration of just how confusing the current text is, and the best justification for this needed clarification, are the ICC Commentaries. The 7" door encroachment requirement is based upon legacy code provisions and has survived intact. In the *1997 UBC Handbook*, figure 1003-29 provides a detail with a dimension indicating a maximum of 7" door encroachment, but the figure shows no hardware and the dimension line leads to the edge of the door surface. Fast-forward to the 2000 *IBC Handbook Fire and Life-safety Provisions* and to figure 1003-5. In this detail, hardware has been added to the illustration but the 7" dimension line has moved to some vague point between the door slab and the doorknob. In the 2003 *IBC Commentary* Figure 1005.2, the detail has been modified to show accessible hardware instead of a doorknob, but the dimension line again leads to some vague spot on the door latch.

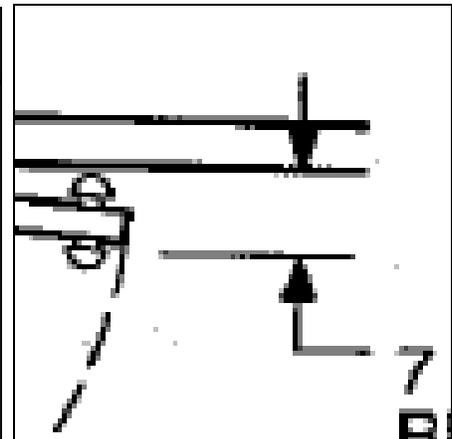
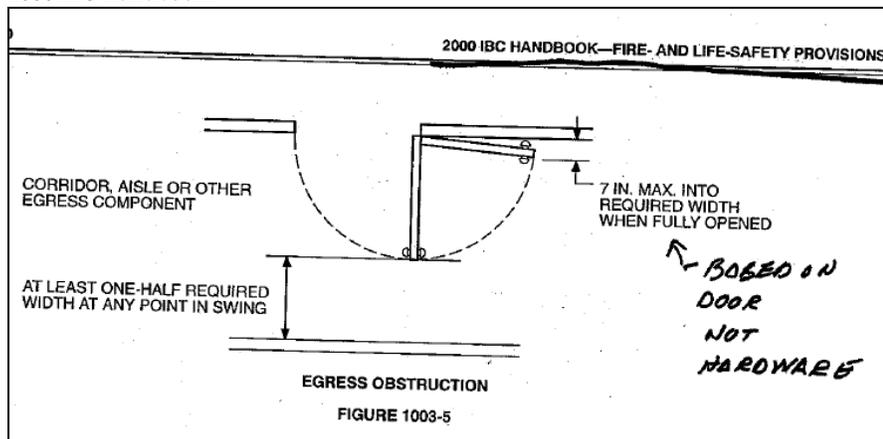
Despite the fact that the technical provision for door encroachment has not changed since the legacy codes, ICC artists have arbitrarily changed the details in the commentaries. The clarification provided by this proposal is necessary to clean up the ambiguity and resolve the issue in order to facilitate consistent code interpretations. The proposal is not a change in the requirement, merely a clarification made necessary by the confusion created by the ICC commentaries.

The following details are taken from the above referenced ICC and ICBO publications.

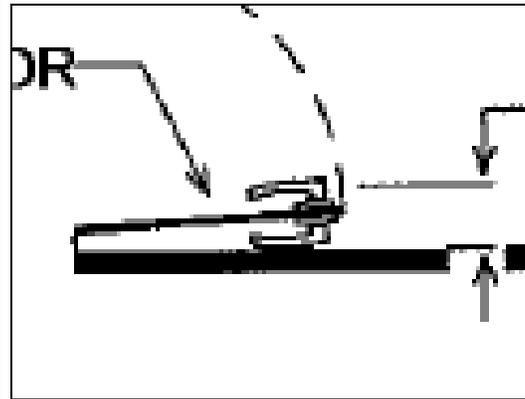
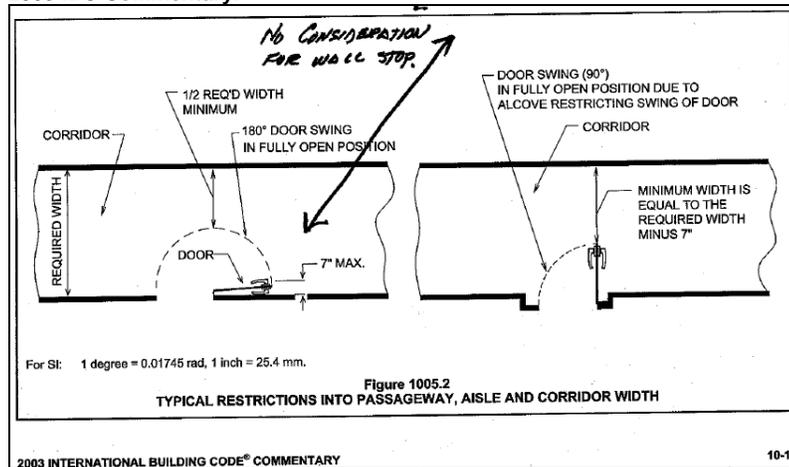
1997 UBC Handbook:



2000 IBC Handbook:



2003 IBC Commentary:



Final Hearing Results

E17-06/07

AMPC1

Code Change No: **E18-06/07**

Original Proposal

Sections: 1005.2, 1014.4, 1017.2, 1021.2, 1024.5.1 (IFC [B] 1005.2, [B] 1014.4, [B] 1017.2, [B] 1021.2, [B] 1024.5.1)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1005.2 Door Encroachment. Doors, when fully opened, and handrails, shall not reduce the required means of egress width by more than 7 inches (178 mm). Such door measurements shall include the thickness of the door and any hardware between the door and the adjacent wall surface. Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) on each side. Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing. When fully open, the door shall not project more than 7 inches (178 mm) into the required width.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

1014.4 Aisles. Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas, other than seating at tables, shall comply with Section 1025. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1025. The required width of aisles shall be unobstructed.

Exception: ~~Doors complying with Section 1005.2. , when fully opened, and handrails shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) from each side.~~

1017.2 Corridor width. The minimum corridor width shall be as determined in Section 1005.1, but not less than 44 inches (1118 mm).

Exceptions:

1. Twenty-four inches (610 mm)—For access to and utilization of electrical, mechanical or plumbing systems or equipment.
2. Thirty-six inches (914 mm)—With a required occupant capacity of less than 50.
3. Thirty-six inches (914 mm)—Within a dwelling unit.
4. Seventy-two inches (1829 mm)—In Group E with a corridor having a required capacity of 100 or more.
5. Seventy-two inches (1829 mm)—In corridors serving surgical Group I, health care centers for ambulatory patients receiving outpatient medical care, which causes the patient to be not capable of self-preservation.
6. Ninety-six inches (2438 mm)—In Group I-2 in areas where required for bed movement.

The required width of corridors shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1021.2 Width. The width of exit passageways shall be determined as specified in Section 1005.1 but such width shall not be less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches (914 mm) in width. The required width of exit passageways shall be unobstructed.

Exception: ~~Doors complying with Section 1005.2, when fully opened, and handrails, shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) on each side.~~

1024.5.1 Width. The width of egress courts shall be determined as specified in Section 1005.1, but such width shall not be less than 44 inches (1118 mm), except as specified herein. Egress courts serving Group R-3 and U occupancies shall not be less than 36 inches (914 mm) in width. The required width of egress courts shall be unobstructed to a height of 7 feet (2134 mm).

Exception: ~~Doors complying with Section 1005.2, when fully opened, and handrails shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) from each side.~~

Where an egress court exceeds the minimum required width and the width of such egress court is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the egress court along the path of egress travel. In no case shall the width of the egress court be less than the required minimum.

Reason: Currently, there are no obstruction provisions for corridors in Section 1017. Section 1014.4 provides such criteria for aisles. Section 1021.2 provides such criteria for exit passageways. Section 1024.5.1 provides such criteria for egress courts. During the previous code development cycle, a similar proposal was disapproved by the means of egress code development committee. Their rationale was that the issue was already sufficiently addressed in the general provisions of Section 1005.2. Unfortunately, those general provisions are not as detailed as those encroachment provisions currently contained in the aforementioned means of egress component sections. Therefore, it is also proposed that Section 1005.2 be modified to be consistent with those component sections. Inasmuch as the required width encroachment provisions apply to more than doors, the section heading has been altered to reflect the more general nature of the provision. Additionally, the specific language currently contained in Sections 1014.4, 1021.2 and 1024.5 has been modified with an applicable cross-reference to Section 1005.2 as preferred by the previous code development committee. Lastly, the code is unclear as to how the seven inch door encroachment is measured (i.e. is door hardware included in the measurement). The proposal provides appropriate clarification. The approval of this proposal would result in the continuity of application of means of egress width encroachment requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1005.2 Door encroachment. Doors, when fully opened, and handrails, shall not reduce the required means of egress width by more than 7 inches (178 mm). ~~Such door measurements shall include the thickness of the door and any hardware between the door and the adjacent wall surface.~~ Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) on each side.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposed language would combine protrusion requirements in one section and would reduce redundancy. The sentence regarding measuring of the door and one-half of the hardware was deleted for consistency with the committee action on E17-06/07. Clear width or corridors should include hardware.

Assembly Action:

None

Final Hearing Results

E18-06/07

AM

Code Change No: **E21-06/07**

Original Proposal

Sections: 1007.1 (IFC [B] 1007.1)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly ~~spaces~~ areas with sloped ~~floors~~ or stepped aisles, one accessible means of egress is ~~required from a space permitted~~ where the common path of travel is accessible and of the accessible route for access to the wheelchair spaces meets the requirements in Section 1025.8.

Reason: The purpose of this proposed change is threefold, first coordination with other sections of the building code, ICC A117.1, and ADAAG by the use of the term "assembly areas", and second for the common path of travel to be the same for sloped or tiered seating arrangements, and then third to clarify the language of this exception.

"Assembly area" is a term that is used for seating elsewhere in the code and is coordinated with ICC A117.1 and ADAAG, therefore it should be the appropriate term used here for consistency. An accessible route to and from wheelchair spaces is required for safe ingress and egress. The same concern for the accessible route is applicable in both ramped or tiered seating arrangements, therefore, the exception should be applicable to both situations.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal would allow theaters to use common path of travel for stepped aisles as well as sloped floors. This is an improvement that was lacking in the code.

Assembly Action:

None

Final Hearing Results

E21-06/07

AS

Code Change No: **E23-06/07**

Original Proposal

Sections: 1007.2, 1007.3, 1007.6, 1007.6.2 (IFC [B] 1007.2, [B] 1007.3, [B] 1007.6, [B] 1007.6.2)

Proponent: Philip Brazil, Reid Middleton, Inc., representing himself

Revise as follows:

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Interior exit stairways ~~within vertical exit enclosures~~ complying with Sections 1007.3 and 1020.
3. Exterior exit stairways complying with Sections 1007.3 and 1023.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1022.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6

Exceptions:

- ~~1.~~ Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.8.
- ~~2.~~ ~~Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8.~~

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

- ~~1.~~ ~~Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.~~
- ~~2.~~ 1. The area of refuge is not required at unenclosed interior exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
- ~~3.~~ 2. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
- ~~4.~~ 3. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
- ~~5.~~ 4. Areas of refuge are not required at exit stairways serving open parking garages.
5. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8

1007.6 Areas of refuge. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to ~~an enclosed a stairway within an exit enclosure~~ complying with Sections 1007.3 and ~~1020.4~~ 1020 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1021. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within a ~~vertical~~ an exit enclosure.

Reason: The purpose of this proposal is to reorganize the requirements for accessible means of egress and eliminate extraneous provisions. Section 1007.1 specifies the minimum number of accessible means of egress. Section 1007.2 requires each one to be continuous to a public way by means of one or more components. Exception #1 is appropriately located but Exception #2 is better located in Section 1007.3.

The items in Section 1007.2 include stairways within vertical exit enclosures and exterior exit stairways. Unenclosed interior exit stairways are excluded, but Exception #1 to Section 1007.3 effectively includes them. The proposal simplifies the provisions by modifying Item #2 of Section 1007.2 to specify interior exit stairways complying with Sections 1007.3 and 1020. This has the effect of including unenclosed exit stairways as permitted by Section 1020.1. Exception #1 to Section 1007.3 is deleted in coordination with this change. The current Exception #2 (proposed Exception #1) to Section 1007.3 is also modified for consistency with the changes.

Section 1007.6 is changed for consistency with the current language in Item #2 of Section 1007.2, which is appropriate in this case. The reference to Section 1020.1 is changed to Section 1020 for the same reason.

In the exception to Section 1007.6.2, the change from "vertical exit enclosure" to "exit enclosure" is made for consistency with other provisions in the IBC, which consistently use the term "exit enclosure." This consistency was established by code change proposal E1-03/04 (AS).

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Interior exit stairways within vertical exit enclosures complying with Sections 1007.3 and 1020.
3. Exterior exit stairways complying with Sections 1007.3 and 1023.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1022.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.8.
2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8.

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. The area of refuge is not required at unenclosed interior exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
4. Areas of refuge are not required at exit stairways serving open parking garages.
- ~~5. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal clarifies the continuity for the accessible means of egress. The proponent asked for the modification to not relocate current Section 1007.2, Exception 2 to a new Section 1007.3, Exception 5. The proponent wished to bring this portion forward in a later proposal.

Staff note: The committee action to Sections 1007.2 and 1007.6.2 have removed the final direct reference to "vertical exit enclosures" in Chapter 10. The result is that the title of Section 1020 will be changed from "Vertical exit enclosures" to "Exit enclosures". Note that titles are editorial.

Assembly Action:

None

Final Hearing Results

E23-06/07

AM

Code Change No: **E25-06/07**

Original Proposal

Sections: 1007.3, 1007.4 (IFC [B] 1007.3, [B] 1007.4)

Proponent: Dave Frable, U.S. General Services Administration

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. Areas of refuge are not required at exit stairways in buildings or facilities equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. ~~5.~~ The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
- ~~5.~~ ~~6.~~ Areas of refuge are not required at exit stairways serving open parking garages.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: The purpose of this Code change is to reinstate into the Code the subject exceptions regarding not requiring areas of refuge (AOR) in buildings or facilities protected throughout by an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 or 903.3.1.2. The subject exceptions had been in all previous editions of the IBC; including each of the legacy Codes, which recognized any floor of a building protected throughout by an approved, operational automatic sprinkler system as an AOR. This recognition is based on sound technical research and acknowledges the ability of a properly designed and operational automatic sprinkler system to control a fire at its point of origin and to limit production of toxic products to a level that is not life threatening.

However, at the Final Action Hearings of the ICC in September 2005, the ICC membership voted to delete the subject two exceptions. However, no technical research data was provided to support any of the proponent's substantiation or rationale for deleting the exceptions for installing AOR in buildings protected throughout by an operational automatic fire sprinkler system.

Below, I have provided the technical research data that substantiated the rationale for not installing AOR in buildings that are protected throughout by an operational automatic fire sprinkler system in the previous editions of the IBC.

In 1989, at the request of Congress, the U.S. General Services Administration (GSA) undertook a project to construct AOR for persons with mobility limitations. In 1991, GSA funded the National Institute of Standards and Technology (NIST) to evaluate the concept of AOR as a means of providing fire protection for persons with disabilities in office buildings.

The NIST evaluation consisted of field tests, threat analysis, and a human behavior study of AOR in six office buildings. The threat analysis included hazards inside the AOR as well as hazards traveling to these areas for both sprinklered and unsprinklered office buildings.

In 1992, NIST issued their findings and recommendations in a report titled "*Staging Areas for Persons with Mobility Impairments*" – NISTIR 4770. The NIST report resulted in a number of conclusions regarding fire protection strategies for persons with disabilities that are believed to be applicable to many other buildings. The primary conclusion of the report was that the operation of a properly designed sprinkler system eliminates the life threat to all occupants regardless of their individual abilities and can provide superior protection for persons with disabilities as compared to staging areas.

To the best of our knowledge, no physical tests or scientifically based fire safety analysis of AOR's has occurred since the printing of this 1992 report. In addition, sprinkler technology has also improved since 1992. Quick response sprinklers are now required to be used where in 1992, standard response sprinklers were utilized.

Regarding some of the opinions expressed at the Final Action Hearings of the ICC in September 2005 regarding automatic sprinkler reliability. A recent comprehensive analysis in 2005 of high-rise fires by NFPA identified that no fatalities had occurred for more than a decade in any U.S. high-rise occupancy (> 10 story) other than the 6 fatalities in the unsprinklered Cook County Office Building (2003); the 1 fatality in the unsprinklered First Interstate Bank Building (1991); and 3 firefighter fatalities in the partially sprinklered (unsprinklered on floor of fire origin and several floors above) Meridan Plaza Building (1991). The Murrah Federal Building (1995) and the World Trade Center (1993 & 2001) bombings were excluded from this analysis.

The recently issued NFPA 2005 report on sprinkler reliability also indicated that automatic fire sprinklers successfully operating in reported structural fires was an exemplary 93%. In addition, NFPA also reported that 2/3rds of the reported automatic fire sprinkler system failures were because the automatic fire sprinkler systems were shut off. Since the IBC requires the supervision of the automatic fire sprinkler system, one can conclude that the successful operation of an automatic fire sprinkler system designed and installed in compliance with the IBC requirements could be reasonably estimated at 98%. NFPA also reported that the percentage of successfully operating automatic fire sprinkler systems is probably higher since a large percentage of small fire extinguished by fire sprinklers are not reported. Therefore, for an automatic fire sprinkler system designed and installed in accordance with the IBC requirements, the successful operation of an automatic fire sprinkler system could be reasonably estimated at 98% or more.

Based on all these points stated above, we strongly believe that it unreasonable not to recognize that any floor of a building protected throughout by an approved, operational automatic fire sprinkler system serve as an AOR. We believe the rationale is sound and based on technical research that acknowledges the ability of a properly designed and operational automatic sprinkler system to control a fire at its point of origin and to limit production of toxic products to a level that is not life threatening to all occupants of the building, including persons with disabilities. In addition, we believe the cost to construct AOR's will significantly increase building construction and maintenance costs without increasing the overall safety to the building occupants.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The sprinkler exception for areas of refuge was deleted from Sections 1007.2 and 1007.3 as part of the final action hearings of the 04/05 cycle. No technical justification was provided to support the deletion of this option. There has been no loss of life in sprinklered high rise buildings. In addition, the deletion of the exceptions have resulted in conflicts with the elevator protection provisions and smoke barrier construction. There would be significant ramifications to current building construction.

Assembly Action:

None

Final Hearing Results

E25-06/07

AS

Code Change No: E27-06/07

Original Proposal

Sections: 1007.4 (IFC [B] 1007.4)

Proponent: Lawrence G. Perry, AIA, representing BOMA

Revise as follows:

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators not required to be located in a shaft in accordance with Section 707.2 are not required to be accessed from an area of refuge or horizontal exit.
3. Elevators are not required to be accessed from an area of refuge or a horizontal exit where all portions of the means of egress are essentially open to the outside.

Reason: The proposed two new exceptions attempt to coordinate the accessible means of egress/area of refuge requirements, which were significantly modified by floor action at the Final Hearings of the '04/'05 Cycle, with the requirements for enclosed elevator lobbies (707.14.1). Proposed exception 2 allows omission of the area of refuge at elevators that are not required to be located within a shaft enclosure. A common example is elevators located within an atrium. The code specifically exempts such elevators from lobby enclosure requirements; it makes no sense to mandate a small enclosed box around the elevator when the elevator is otherwise permitted to be totally open to the atrium.

Proposed exception 3 addresses outdoor locations where elevators may be provided, such as transit station platforms and A-5 assembly occupancies. The purpose of the area of refuge or horizontal exit is to provide separation from the products of combustion during a fire. If the area is open to the outside, smoke will not accumulate.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators not required to be located in a shaft in accordance with Section 707.2 are not required to be accessed from an area of refuge or horizontal exit.
3. ~~Elevators are not required to be accessed from an area of refuge or a horizontal exit where all portions of the means of egress are essentially open to the outside.~~

Committee Reason: The proposed exception 2 is a logical extension. If an elevator is not in a shaft, an area of refuge in front of it would not make sense. The modification to delete Exception 3 was for consistency with the committee action on E26-06/07. The term 'essentially' is not readily defined.

Assembly Action:

None

Final Hearing Results

E27-06/07

AM

Code Change No: E28-06/07

Original Proposal

Sections: 1007.3, 1007.4, 1007.7 (IFC [B] 1007.3, [B] 1007.4, [B] 1007.7)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge are not required for smoke protected seating areas complying with Section 1025.6.2.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit for smoke protected seating areas complying with Section 1025.6.2.

1007.7 Signage. At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress. At refuge areas created by horizontal exits or where areas of refuge are not required, provide signage indicating areas to wait for rescue assistance.

Reason: The purpose of this proposed change is to rectify a potentially unintended result of a recent code change. The purpose of a smoke barrier is to minimize the intrusion of smoke. In environments where the entire area has protection against the accumulation of smoke, requiring an additional smoke barrier is not only redundant but potentially hazardous. For example, enclosing a room in an exterior stadium concourse does not enhance safety, if anything it would diminish it.

Smoke-protected seating is performance based design providing an environment where smoke is maintained away from occupants from the seat to exit discharge with design criterion established in Section 909. Therefore, smoke-protected seating already provides an environment meeting the intent of the protection offered by areas of refuge. For seating to be considered smoke-protected it is required to maintain the level of smoke at least 6 feet above the floor of the means of egress (please refer to Section 1025.6.2.1). In addition, a life safety evaluation, complying with NFPA 101, is required for smoke-protected assembly seating (please refer to Section 1025.6.2).

Even when areas of refuge are not provided, signage indicating where people can wait for assisted rescue should be provided. This would happen at horizontal exits, an open exit stairway or in smoke free environments such as open parking garages or smoke protected seating areas.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Modified****Modify the proposal as follows:**

1007.7 Signage. At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress. ~~At refuge areas created by horizontal exits or where areas of refuge are not required, provide signage indicating areas to wait for rescue assistance.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The modification provided definable criteria for areas where smoke protected seating for all occupants is provided. It is logical that this is a viable alternative for areas of refuge for persons with mobility impairments. The modification removed the proposed revision to Section 1007.7. If an area of refuge is not required, then signage for that area of refuge does not make sense.

Assembly Action:**None**

Final Hearing Results

E28-06/07

AM

Code Change No: **E29-06/07**

Original Proposal

Sections: 1007.3 (IFC [B] 1007.3)

Proponent: Ron Nickson, National Multi Housing Council/National Apartment Association

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. The areas of refuge are not required in Group R-2 occupancies.

Reason: To allow an exception to not require an area of refuge in apartment buildings and individual dwellings because the individual sprinklered apartment provide a much superior area to protect the apartment occupant than would be provided by the area of refuge. In addition to each individual unit being surrounded by partitions and horizontal assemblies in accordance with Section 419, the unit also has the special items necessary for the individual occupant.

NFPA fire data from *U.S. Experience with Sprinklers* by Kimberly Rohr and John R. Hall, Jr., December 2005 (copy attached) supports the safety of the individual apartment. According to the report 95% (Table 12, page 46) of the fires in sprinklered apartment buildings are confined within the room of origin (object of origin – 69%, area of origin – 20%, and room of origin – 6%). More important the report goes on to address the effectiveness of sprinklers in saving lives by stating “NFPA has no record of a fire killing more than two people in a completely sprinklered public assembly, educational, institutional, or residential building where the system was properly operating” (Page 32). NFPA also reports that residential sprinkler system reliability of 98% (2% failure, Table 4, page 17) is the highest for all occupancies. The Operation Life Safety reported on the safety of residential systems also shows that the systems save lives. An evaluation of the report *Residential Sprinkler Activations* (copy attached) shows no deaths in buildings protected with the NFPA 13D and 13R sprinkler systems?

Cost Impact: The code change proposal will decrease the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Since Group R-2 occupancies are required to be sprinklered and separated, there is sufficient protection for the residents. There was a question if with the committee action on E25-06/07 that this exception may be redundant.

Assembly Action:

None

Final Hearing Results

E29-06/07

AS

Code Change No: E30-06/07

Original Proposal

Sections: 1007.3 (IFC [B] 1007.3)

Proponent: Ron Nickson, National Multi Housing Council/National Apartment Association

Revise as follows:

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.
2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.1.1.2.
3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.

Reason: To allow the exceptions for not requiring an area of refuge at unenclosed exit stairways permitted for buildings with NFPA 13 sprinkler systems to also be allowed with NFPA 13R sprinkler systems. The design requirements and thus the protection provided with NFPA 13R system in the area being protected are the same as that provided with a NFPA 13 system.

Cost Impact: The code change proposal will decrease the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: In this particular case, the use of sprinkler systems provided in accordance with NFPA 13R is reasonable and will provide the needed level of protection.

Assembly Action:

None

Final Hearing Results

E30-06/07

AS

Code Change No: **E35-06/07**

Original Proposal

Sections: 1007.6 (IFC [B] 1007.6)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1007.6 Areas of refuge. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to an enclosed exit stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

Exceptions:

1. A stairway serving an area of refuge is not required to be enclosed where permitted in Section 1020.1.
2. Smokeproof enclosure is not required for an elevator lobby used as an area of refuge not required to be enclosed.

Reason: The purpose of this proposed change is to clarify two things: first that an exit stair that is not required to be enclosed by Section 1020.1 is not otherwise required to be enclosed in order to serve an area of refuge, and then second that elevator shaft and lobby is not required to be smokeproof where the area of refuge would not need to be separated from the remaining space. Without this proposed change, it may be interpreted that the limited conditions where an exit stair is not required to be enclosed would need to be enclosed when it serves an area of refuge. In addition, it may be interpreted providing smokeproof enclosure for elevator lobbies and shafts would be required even when the area of refuge is not required to be separated.

An exterior stair in A5 occupancy is not required to be enclosed per Section 1020.1. However, without this proposed change that same exterior stair might be required to be enclosed when it serves an area of refuge. As stated in another proposed change, separating an area of refuge from an open air exterior concourse is counter-productive when the concourse is already protected from smoke. Enclosing an exterior exit stair does not seem to offer any greater protection from smoke, but potentially reduces its protection. Similarly, enclosing an exterior elevator shaft and lobby might offer more potential for smoke collection compared to an open air exterior space.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The level of protection offered by an open exit access stair is negligible, and what is needed is an actual exit enclosure.

Assembly Action:

None

Final Hearing Results

E35-06/07

AS

Code Change No: **E38-06/07**

Original Proposal

Sections: 1007.8.4 (New), [IFC [B] 1007.8.4 (New)]; IFC 404.3.1, 404.3.2

Proponent: Linda Volpe, United Spinal Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IFC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Add new text as follows:

1007.8.4 Instructions. For an exterior area for assisted rescue, instruction on the use of the area under emergency conditions shall be posted adjacent to the exit door on the exterior of the building. The instructions shall include all of the following:

1. Information on planned availability of assistance.
2. Directions to find other accessible means of egress.
3. Persons able to use the exit discharge should do so as soon as possible, unless they are assisting others.

PART II – IFC

404.3 Contents. Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.

404.3.1 Fire evacuation plans. Fire evacuation plans shall include the following:

1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.
2. Procedures for employees who must remain to operate critical equipment before evacuating.
3. Procedures for assisted rescue for persons unable to use the general means of egress unassisted.
- ~~3-~~ 4. Procedures for accounting for employees and occupants after evacuation has been completed.
4. ~~5-~~ 5. Identification and assignment of personnel responsible for rescue or emergency medical aid.
5. ~~6-~~ 6. The preferred and any alternative means of notifying occupants of a fire or emergency.
6. ~~7-~~ 7. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.
7. ~~8-~~ 8. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
8. ~~9-~~ 9. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

404.3.2 Fire safety plans. Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.
2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants, including occupants who need assistance.
3. Site plans indicating the following:
 - 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.
4. Floor plans identifying the locations of the following:
 - 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.

- 4.5. Areas of refuge.
 - 4.6. Exterior areas for assisted rescue
 - ~~4.6.~~ 4.7. Manual fire alarm boxes.
 - ~~4.7.~~ 4.8. Portable fire extinguishers.
 - ~~4.8.~~ 4.9. Occupant-use hose stations.
 - ~~4.9.~~ 4.10. Fire alarm annunciators and controls.
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
 6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
 7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

Reason: Exterior areas for assisted rescue meet the requirements for an Accessible Means of Egress and provide a necessary alternative to an accessible route to a public way. Information on the procedures for use must be available.

It is important that there be adequate information and procedures established so that assistance can be offered to anyone who needs help using the general means of egress as quickly as possible. The additional criteria for the fire evacuation and fire safety plans would be a good step towards making sure that this information is available to staff and fire fighters.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

PART I – IBC

Committee Action:

Disapproved

Committee Reason: The language of the proposal does not clearly indicate whom the signage is to serve and is confusing. If the signage is on the outside, and the door locks behind the person, what is the purpose of telling them the location of other accessible means of egress if they cannot access them. At least a portion of the information is more appropriate on the inside of the building. The text should tell a user how to access the exterior area of rescue assistance - not send them somewhere else.

Assembly Action:

None

PART II – IFC

Committee Action:

Approved as Submitted

Committee Reason: Including assisted rescue strategies and procedures in the required fire evacuation and safety planning provisions will provide a needed improvement in the life safety profile of buildings for all of their occupants.

Assembly Action:

None

Final Hearing Results

E38-06/07, Part I	D
E38-06/07, Part II	AS

Code Change No: E40-06/07

Original Proposal

Sections: 1008.1.1.1 (IFC [B] 1008.1.1.1)

Proponent: Bill Conner, Bill Conner Associates LLC, representing himself

Revise as follows:

1008.1.1.1 Projections into clear width. There shall not be projections into the required clear width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

Reason: The purpose of this proposal is to allow for door closers and stops to protrude into the 80" minimum height. This is coordinated with ICC A117.1, Section 404.2.2.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The lower headroom height for door closers and stops will allow design flexibility without adversely affecting the means of egress.

Assembly Action:

None

Final Hearing Results

E40-06/07

AS

Code Change No: E41-06/07

Original Proposal

Sections: 1008.1.2 (IFC [B] 1008.1.2)

Proponent: John Neff, Washington State Building Code Council

Revise as follows:

1008.1.2 Door swing. Egress doors shall be side-hinged swinging.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H Occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

The opening force for interior side-swinging doors without closers shall not exceed a 5-pound (22 N) force. For other side-swinging, sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15 pound (67 N) force. Forces shall be applied to the latch side.

Reason: The purpose of the code change is to add an exception to the code to allow a specific type of door for egress from areas of low occupancy. This exception is needed to allow space efficient design while maintaining a proven level of safety. Use of manual horizontal sliding doors for egress from low occupancy spaces was allowed under legacy codes with no impact on the health and safety of the occupants. Examples of where these doors have been used for egress include hotel balconies and in teacher break rooms in school facilities.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

1008.1.2 Door swing. Egress doors shall be side-hinged swinging.

Exceptions:

- ~~1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.~~
- ➔ 1. In other than Group H Occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

The opening force for interior side-swinging doors without closers shall not exceed a 5-pound (22 N) force. For other side-swinging, sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15 pound (67 N) force. Forces shall be applied to the latch side.

Committee Reason: The change allowing for a horizontal sliding door instead of a side swinging door in areas with small occupant loads would not decrease safety for the means of egress. The modification to delete Exception 1 was to eliminate redundant text with the new exception. The Assembly Action was due to the deletion of Exception 1 resulting in overhead doors not being permitted as an option for some of these small areas.

Assembly Action:

Approved as Submitted

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful.

Final Hearing Results

E41-06/07

AS

Code Change No: E43-06/07

Original Proposal

Sections: 1008.1.2, 1008.1.3 (New), 1008.1.3.1 (New) [IFC 1008.1.2, [B] 1008.1.3 (New), [B] 1008.1.3.1 (New)]

Proponent: Philip Brazil, Reid Middleton, Inc., representing himself

Revise as follows:

1008.1.2 (IFC 1008.1.2) Door swing. Egress doors shall be side-hinged swinging.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3 as applicable in Section 101.2.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

1008.1.3 Door opening force. The opening force for pushing or pulling open interior side-swinging egress doors without closers other than fire doors, shall not exceed ~~a 5-pound~~ 5 pounds (22 N) force. For other side-swinging doors, and sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15-pound (67 N) force.

1008.1.3.1 Location of applied forces. Forces shall be applied to the latch side of the door.

Reason: The purpose of this proposal is to make the provisions for door opening forces more technically sound and more consistent with similar provisions in ICC A117.1. IBC Section 1008.1.2 requires egress doors to be side-hinged swinging except for several cases noted in Exceptions #1 through #8. In paragraph #3, the opening force is limited to 5 pounds for interior side-swinging doors without closers. The charging language in paragraph #1, however, is limited to side-hinged swinging doors, which does not include side-swinging doors other than side-hinged swinging (i.e., pivoted). Paragraph #3 specifies limits on opening forces for sliding and folding doors, which is also beyond the scope of the same charging language. Because of this, a new code section is proposed so that the requirements for door opening force are not limited to the charging language in Section 1008.1.2.

Scoping issues aside, the current provisions in paragraph #3 are limited to side-swinging doors, sliding doors and folding doors. Excluded are swinging doors other than side-swinging (i.e., pivoted), which is not the intent. It is also not consistent Section 404.2.8 of ICC A117.1-03 on door-opening force, which applies to all interior hinged doors other than fire doors, not just side-swinging (hinged) doors. The change from "side-swinging" to "swinging" doors will make the necessary correction.

The current language in paragraph #3 of Section 1008.1.2 specifies "opening force." This is changed to "force for pushing and pulling open," also for consistency with Section 404.2.8 of ICC A117.1-03. The substitution of "fire doors" for "without closers" is being done for the same reason. The change from "5-pound force" to "5 pounds" is being done to eliminate redundancy. Note that "force" is specified at the beginning of the sentence.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The reorganization clarifies the operational force is applicable to all inside non-fire doors, including types other than side swinging doors.

Assembly Action:

None

Final Hearing Results

E43-06/07

AS

Code Change No: **E44-06/07**

Original Proposal

Sections: 1008.1.3.1 (IFC [B] 1008.1.3.1)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1008.1.3.1 Revolving doors. Revolving doors shall comply with the following:

1. Each revolving door shall be capable of collapsing into a bookfold position with parallel egress paths providing an aggregate width of 36 inches (914 mm).
2. A revolving door shall not be located within 10 feet (3048 mm) of the foot of or top of stairs or escalators. A dispersal area shall be provided between the stairs or escalators and the revolving doors.
3. The revolutions per minute (rpm) for a revolving door shall not exceed those shown in Table 1008.1.3.1.
4. Each revolving door shall have a side-hinged swinging door which complies with Section 1008.1 in the same wall and within 10 feet (3048 mm) of the revolving door.
5. Revolving doors shall not be part of an accessible route required by Section 1007 and Chapter 11.

Reason: Revolving doors cannot be used on an accessible route.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Revolving doors are a safety hazard along accessible routes without specifications for just how to make them accessible.

Assembly Action:

None

Final Hearing Results

E44-06/07

AS

Code Change No: **E47-06/07**

Original Proposal

Sections: 1008.1.8.3 (IFC [B] 1008.1.8.3)

Proponent: Ralph Vasami, The Kellen Company, representing The Door Safety Council

Revise as follows:

1008.1.8.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint. 2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked,
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background, 2.3. The use of the key-operated locking device is revokable by the building official for due cause.
3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. Fire rated doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures

Reason: This proposal will revise Section 1008 to clarify conditions under which latching devices shall be permitted to prevent door operation. The current code contains a contradiction in that the listed procedures for a fire door include the disabling of the mechanism. Without this added text, the code does not allow the listed feature.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1008.1.8.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint. 2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked,
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background, 2.3. The use of the key-operated locking device is revokable by the building official for due cause.
3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. Fire ~~rated~~ doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.

Committee Reason: The proposed language would codify application for doors currently used. A concern was expressed if the listing information would be sufficient to regulate this type of mechanism. The modification to the new item five is for consistency with the terminology for fire doors.

Assembly Action:

None

Final Hearing Results

E47-06/07

AM

Code Change No: E52-06/07

Original Proposal

Sections: 1008.1.8.7 (New) [IFC [B] 1008.1.8.7 (New)]

Proponent: Dave Frable, U.S. General Services Administration

Revise as follows:

1008.1.8.7 Electromagnetically locked egress doors. Doors in the means of egress in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch that meets the requirements below:

1. The listed hardware is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The listed hardware is capable of being operated with one hand.
3. Operation of the listed hardware interrupts power supply to the electromagnetic lock and unlocks the door.
4. Loss of power to the listed hardware automatically unlocks the door.

Reason: The intent of this code change proposal is add a new requirement that would permit doors in the means of egress to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch that interrupts the power supply to the electromagnetic lock and unlocks the door.

Current code requirements do not permit the use of this new type of technology for electromagnetically locked egress door. Current requirements only permit the use of delayed egress locking systems and egress access control systems. However, these two types of egress locking systems typically do not meet the security needs of the building and are often misapplied.

The listed hardware that incorporates a built-in switch has been tested by UL under Special Locking Arrangements FWAX.SA6635. For example, the Adams Rite 3000 bars are OEM listed as 3700, 3600, 3300, and 3100. In addition, the Securitron Touch Sense Bars and Handles are also listed.

We believe type of locking arrangement will address a majority of security concerns in buildings while still maintaining a reasonable degree of safety. This new type of locking arrangement would also be acceptable in the 2006 edition of the NFPA 101, *Life Safety Code*.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1008.1.8.7 Electromagnetically Locked Egress Doors. Doors in the means of egress that are not otherwise required to have panic hardware in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch, and meet that meets the requirements below:

1. The listed hardware affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The listed hardware is capable of being operated with one hand.
3. Operation of the listed hardware ~~releases~~ interrupts power supply to the electromagnetic lock and unlocks the door immediately.
4. Loss of power to the listed hardware automatically unlocks the door.

Committee Reason: The proposal resolves a huge misunderstanding in the code that all door locks are required to be mechanical. The modification to the base paragraph is to clarify that these locks will not conflict with panic hardware requirements. The modification to Item 2 clarifies that this type of lock is not a delayed egress lock or access control lock addressed elsewhere in the locking requirements.

Assembly Action:

None

Final Hearing Results

E52-06/07

AM

Code Change No: **E63-06/07**

Original Proposal

Sections: 1009.3.3 (IFC [B] 1009.3.3)

Proponent: William McErlane, City of Springdale, Ohio, representing Ohio Building Officials Association

Revise as follows:

1009.3.3 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 0.5 inch (12.7 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in F, H and S occupancies other than areas accessible to the public.

Reason: Solid risers are required in occupancies where guards are limited to maximum four inch openings because open risers are typically more than four inches high. They are also a concern for mobility impaired persons. This section already recognizes one occupancy where the opening limitations are relaxed due to decreased hazard. This would allow stairs such as those at loading docks and industrial mezzanines to have open risers.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Areas that are not open to the public in F, H and S occupancies should not be required to have solid risers on stairway.

Assembly Action:

None

Final Hearing Results

E63-06/07

AS

Code Change No: **E64-06/07**

Original Proposal

Sections: 1009.4 (IFC [B] 1009.4)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1009.4 Stairway landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall not be less than the width of stairways they serve. Every landing shall have a minimum dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 48 inches

(1219 mm) where the stairway has a straight run. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. When wheelchair spaces are required on the stairway landing in accordance with Section 1007.6.1, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exceptions: 4- Aisle stairs complying with Section 1025.

- 2- ~~Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing.~~

Reason: The intent of this proposal is to maintain clear width for the general means of egress down an exit stairway. If a wheelchair space that is part of an area of refuge is located on the landing it is important for the safety of both the general public and the persons using the wheelchair spaces that this area is outside of the general path of travel. The door should not swing over the wheelchair space so that someone can be in the space and not block the door. Wheelchair spaces should be outside of the general traffic flow so that they do not cause a bottle neck and the persons using the wheelchair spaces are not bumped. The other moved language was for consistency with corridors as paths for means of egress (e.g. don't allow the door swing to block the path of travel). This is a requirement, not an exception.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proponent has provided clarifying language for adequate stairway landings when dealing with both doors opening onto landing and when wheelchair spaces are located on the landing.

Assembly Action:

None

Final Hearing Results

E64-06/07

AS

Code Change No: E65-06/07

Original Proposal

Sections: 1009.5.1 (IFC [B] 1009.5.1)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1009.5.1 Stairway walking surface. The walking surface of treads and landings of a stairway shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Stairway treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in stair walking surfaces shall be a size that does not permit the passage of ½ inch (13 mm) diameter sphere. Elongated opening shall be placed so that the long dimension is perpendicular to the dominant direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of 1.125 inches (29 mm) cannot pass through the opening.

Reason: The purpose of this proposal is to address what holes in treads should be permitted. This change is intended to coordinate with stairway treads as scoped in ADAAG.

For stairway walking surfaces ICC A117.1 Section 302.3 says ½" openings are permitted on walking surfaces.

There are many locations, especially outside, where allowing perforated treads would help keep snow and water off the tread surfaces.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1009.5.1 Stairway walking surface. The walking surface of treads and landings of a stairway shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Stairway treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in stair walking surfaces shall be a size that does not permit the passage of ½ inch (13 mm) diameter sphere. Elongated opening shall be placed so that the long dimension is perpendicular to the ~~dominant~~ direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of 1.125 inches (29 mm) cannot pass through the opening.

Committee Reason: The allowances for grill or grate type stairways, especially in outdoor areas in climates subject to snow accumulation, is necessary for a safe means of egress. A modification was made to delete the word 'dominant' in Exception 1 because the word was redundant.

Assembly Action:

None

Final Hearing Results

E65-06/07

AM

Code Change No: E67-06/07

Original Proposal

Sections: 1009.8 (IFC [B] 1009.8); IRC R311.5.8.1

Proponent: David W. Cooper, Stairway Manufacturers' Association

THIS PROPOSAL IS ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

Revise as follows:

1009.8 Spiral stairways. Spiral stairways are permitted to be used as a component in the means of egress only within dwelling units or from a space not more than 250 square feet (23 m²) in area and serving not more than five occupants, or from galleries, catwalks and gridirons in accordance with Section 1015.6.

A spiral stairway shall have a 7.5 inch (191 mm) minimum clear tread depth at a point 12 inches (305 mm) from the narrow edge. The risers shall be sufficient to provide a headroom of 78 inches (1981 mm) minimum, but riser height shall not be more than 9.5 inches (241 mm). The minimum stairway clear width at and below the handrail shall be 26 inches (660 mm).

PART II – IRC

Revise as follows:

R311.5.8.1 Spiral stairways. Spiral stairways are permitted, provided the minimum clear width at and below the handrail shall be 26 inches (660 mm) with each tread having a 7 1/2-inches (190 mm) minimum tread depth at 12 inches from the narrower edge. All treads shall be identical, and the rise shall be no more than 9 1/2 inches (241 mm). A minimum headroom of 6 feet 6 inches (1982 mm) shall be provided.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The purpose of the change is to clarify the code. This proposal will allow consistent interpretation.

(IBC) The intent of the code needs to be clarified. The added text clarifies the width that has long been accepted and enforced. This issue is further complicated by the fact that the IBC Commentary drawing does not show the handrail. Another option would be to insert the text “measured at the tread” as the commentary drawing would imply however this is not felt to be the historical interpretation.

(IRC) In R311.5.1 Width, the section discusses the width of the stair at several points. Although this level of detail is not necessary in the Spiral stairway section the added text clarifies the width that has long been accepted and enforced. Because the exception in R311.5.1 refers to this section it is necessary to insert the additional text. The is further complicated by the fact that the IRC Commentary drawing does not show the handrail. Another option would be to insert the text “measured at the tread” as the commentary would imply however this is not felt to be the historical interpretation.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC

Committee Action:

Approved as Submitted

Committee Reason: The proposed language clarifies where to measure the width of a spiral stairway.

Assembly Action:

None

PART II – IRC

Committee Action:

Approved as Submitted

Committee Reason: The new language for spiral stairways helps to add clarity to this code section and it helps to keep the area at and below the guardrail clear.

Assembly Action:

None

Final Hearing Results

E67-06/07, Part I	AS
E67-06/07, Part II	AS

Code Change No: E69-06/07

Original Proposal

Sections: 1009.10, 1010.8, 1025.13 (IFC [B] 1009.10, [B] 1010.8, [B] 1025.13)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1009.10 Handrails. Stairways shall have handrails on each side and shall comply with Section 1012. Where glass is used to provide the handrail, the handrail shall also comply with Section 2407.

Exceptions:

- ~~1. Aisle stairs complying with Section 1025 provided with a center handrail need not have additional handrails.~~ Handrails for aisle stairs are not required where permitted by Section 1025.13.
2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
3. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
4. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.
5. Changes in room elevations of only one riser within dwelling units and sleeping units in Group R-2 and R-3 occupancies do not require handrails.

1010.8 Handrails. Ramps with a rise greater than 6 inches (152 mm) shall have handrails on both sides. Handrails shall comply with Section 1012.

Exception: Handrails for ramped aisles are not required where permitted by Section 1025.13.

1025.13 Handrails. Ramped aisles having a slope exceeding one unit vertical in 15 units horizontal (6.7-percent slope) and aisle stairs shall be provided with handrails located either at the side or within the aisle width.

Exceptions:

1. Handrails are not required for ramped aisles having a gradient no greater than one unit vertical in eight units horizontal (12.5-percent slope) and seating on both sides.
2. Handrails are not required if, at the side of the aisle, there is a guard that complies with the graspability requirements of handrails.
3. Handrail extensions are not required at the top and bottom of aisle stair and aisle ramp runs to permit crossovers within the aisles.

Reason: The intent is clarification of the handrail provisions for aisle steps and aisle ramps in assembly seating and coordination with ICC A117.1 and ADAAG Section 505.

Section 1009.10, Exception 1: The handrail exception for aisle steps should provided direct reference to handrail provisions.

Section 1010.8: Coordination with handrails provisions for ramps is required.

Section 1025.13: New language – coordination with A117.1 and ADA 505.2 and 505.10. The handrail extensions could become protruding objects at these locations.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal clarifies handrail requirements in aisles serving seating areas. Perhaps a public comment could be brought forward to clean up “not required where permitted” and put the exceptions in better code language.

Assembly Action:

None

Final Hearing Results

E69-06/07

AS

Code Change No: E70-06/07

Original Proposal

Sections: 1009.10 (IFC [B] 1009.10)

Proponent: Tom Rubotton, City of Lakewood, Colorado, representing the Colorado Chapter of ICC

Revise as follows:

1009.10 Handrails. Stairways shall have handrails on each side and shall comply with Section 1012. Where glass is used to provide the handrail, the handrail shall also comply with Section 2407.

Exceptions:

1. Aisle stairs complying with Section 1025 provided with a center handrail need not have additional handrails.

2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
3. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
4. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.
5. Changes in room elevations of ~~only one riser~~ 3 or fewer risers within dwelling units and sleeping units in Group R-2 and R-3 do not require handrails.

Reason: This code change will make these requirements for when handrails are required on stairs within dwelling units and sleeping units in R-2 and R-3 occupancies the same as the requirements when building under the IRC. These occupancies are considered non transient and therefore the occupants are living there for longer periods of time and are much more familiar with their surroundings. It does not make sense to require handrails when there are 2 or more risers in a condo or house built under the IBC and to only require handrails when 4 or more risers when single family house or townhouse is built under the IRC. The same types of people are living in these structures and they are often built on same street by the same builder.

It should be noted that the last sentence of Section R310 for R-3 states “Adult and Child care facilities that are within a single-family home are permitted to comply with the International Residential Code” which would allow the conditions this change proposes.

Cost Impact: The code change proposal will reduce the cost of construction.

Analysis: Section 308.5 would limit adult and child care facilities in Group R-3 to five or fewer persons.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal would coordinate the IBC and IRC requirements for stairways in Group R-2 and R-3 with three or fewer risers. The hazard does not increase for this situation between single family homes and within a townhouse or apartment.

Assembly Action:

None

Final Hearing Results

E70-06/07

AS

Code Change No: E74-06/07

Original Proposal

Sections: 1010.5.1 (IFC [B] 1010.5.1)

Proponent: William W. Stewart, Chesterfield, MO, representing himself

Revise as follows:

1010.5.1 Width. The minimum width of a means of egress ramp shall not be less than that required for corridors by Section 1017.2. The clear width of a ramp ~~and the clear width between handrails, if provided, or other permissible projections~~ shall be 36 inches (914 mm) minimum.

Reason: Ramps require handrails on both sides per 1010.8 thus the deleted text is redundant. It is also misleading because it implies ramps do not need handrails on both sides. If the slope is less than 1:20 then the walking surface is not a ramp and is not regulated by this section. Other permissible projections are introduced because someone might think that ramp curbs and similar components should be included in the width if a ramp.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1010.5.1 Width. The minimum width of a means of egress ramp shall not be less than that required for corridors by Section 1017.2. The clear width of a ramp between handrails, if provided, or other permissible projections shall be 36 inches (914 mm) minimum.

Committee Reason: The proposal will clarify that the clear width for a ramp is all the way down from the handrails to the ground. The term "if provided" was added back in as a modification to allow for ramps with a rise of less than 6 inches not having handrails.

Assembly Action:

None

Final Hearing Results

E74-06/07

AM

Code Change No: **E75-06/07**

Original Proposal

Sections: 1010.6.3, 1010.6.4 (IFC [B] 1010.6.3, [B] 1010.6.4)

Proponent: John Rooney, United Spinal Association

Revise as follows:

1010.6.3 Length. The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:

1. Landings in nonaccessible Group R-2 and R-3 individual dwelling and sleeping units that are not required to be Accessible, Type A or Type B units in accordance with Section 1107, landings are permitted to be 36 inches (914 mm) minimum.
2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

1010.6.4 Change in direction. Where changes in direction of travel occur at landings provided between ramp runs, the landing shall be 60 inches by 60 inches (1524 mm by 1524 mm) minimum.

Exception: Landings in nonaccessible Group R-2 and R-3 individual dwelling or sleeping units that are not required to be Accessible, Type A or Type B units in accordance with Section 1107, landings are permitted to be 36 inches by 36 inches (914 mm by 914 mm) minimum.

Reason: The purpose of this change is for code clarification. This change specifies where the exceptions are not permitted (i.e. within Accessible, Type A or Type B dwelling or sleeping units). The three levels of accessibility for units can lead to discussions about what is accessible. This language is more specific.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language clarifies that the ramps in Accessible, Type A and Type B units cannot use the exceptions.

Assembly Action:

None

Final Hearing Results

E75-06/07

AS

Code Change No: E77-06/07

Original Proposal

Sections: 1010.9 (IFC [B] 1010.9)

Proponent: Ed Roether, HOK SVE

Revise as follows:

1010.9 Edge protection. Edge protection complying with Sections 1010.9.1 or 1010.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

1. Edge protection is not required on ramps that are not required to have handrails, provided they have flared sides that comply with the ICC A117.1 curb ramp provisions.
2. Edge protection is not required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection is not required on the sides of ramp landings having a vertical dropoff of not more than 0.5 inch (12.7 mm) within 10 inches (254 mm) horizontally of the required landing area.
4. In assembly spaces with fixed seating, edge protection is not required on the sides of ramps where the ramps provide access to the adjacent seating and aisle accessways.

Reason: The current requirements for ramp edge protection are applicable to all ramps, including those in assembly seating. While 1010.9.2 could cover a ramp that went up with the sloped seating, the exception is attached to the location of the handrail. Ramped aisles may not have handrails, or may have a central handrail.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed text clarifies the code and reduces a potential tripping hazard along access to the seats.

Assembly Action:

None

Final Hearing Results

E77-06/07

AS

Code Change No: E78-06/07

Original Proposal

Sections: 1010.9.1 (IFC [B] 1010.9.1)

Proponent: John Rooney, United Spinal Association

Revise as follows:

1010.9.1 Curb, rail, wall or barrier. A curb, rail, wall or barrier shall be provided to serve as edge protection. A curb must be a minimum of 2 inches (51mm) in height. Barriers must be constructed so that the barrier prevents the passage of a 4-inch-diameter (102 mm) sphere, where any portion of the sphere is within 4 inches (102 mm) of the floor or ground surface.

Reason: The proposed change will harmonize the code language with Section 405.9.2 of ICC/ANSI A117.1 and Section 405.9.2 of the ADA/ABA Guidelines. The laundry list is not needed since a "rail" or "wall" are types of barriers.

The proposal for a 2" dimension for a curb is consistent with current ADAAG. The new ADA/ABA Guidelines and ICC A117.1 do not indicate the height requirements if a curb option is chosen.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposed 2 inch minimum high curb would conflict with the requirements in ICC A117.1 and the new ADA/ABA Accessibility Guidelines which require a 4 inch minimum high curb.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 2:

John Rooney, United Spinal Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

1010.9.1 Curb, rail, wall or barrier. A curb, rail, wall or barrier shall be provided to serve as edge protection. A curb must be a minimum of ~~2 inches (51 mm)~~ **4 inches (102 mm)** in height. Barriers must be constructed so that the barrier prevents the passage of a 4-inch-diameter (102 mm) sphere, where any portion of the sphere is within 4 inches (102 mm) of the floor or ground surface.

Commenter's Reason: The proposed deletion of "rail, wall" has been withdrawn from this proposal. The important issue is to identify the height of a curb when that option is chosen. The current language is not clear. Two proposals are offered to allow the members to decide on which curb height should be required – 2" or 4". Testimony during the hearings indicated that the language in the new ADA/ABA Guideline (which do not give a specific requirement for curbs) could be interpreted as requiring a 4" high curb.

Final Hearing Results

E78-06/07

AMPC2

Code Change No: E82-06/07

Original Proposal

Sections: 1011.4, Chapter 35 (IFC [B] 1011.4, Chapter 45)

Proponent: Manny Muniz, Manny Muniz Associates, LLC, representing himself

1. Revise as follows:

1011.4 Internally illuminated exit signs. Internally illuminated exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Section 2702. Exit signs shall be illuminated at all times.

2. Add new standard to Chapter 35 as follows:

Underwriters Laboratories (UL)

UL 924-06 Standard for Safety Emergency Lighting and Power Equipment

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The purpose of the change is to clarify what standard internally illuminated exit signs shall be listed and labeled to. A requirement for a safety device to be listed must identify the standard that the device must be listed to. The code cannot require a device to be listed but then stay silent as to what standard it should be listed in accordance with. This section of the code would most likely be looked at by the courts as ambiguous, unclear and perhaps even unenforceable.

The Life Safety Code (NFPA 101), which is used in every state in the US, contains a similar requirement in Section 7.10.7.1 which does identify UL 924, Standard for Safety Emergency Lighting and Power Equipment, as the standard that internally illuminated exit signs must be listed to.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The standard UL 924-06 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: UL 924 is an appropriate standard for illumination of exit signage. The standard has been revised to meet ICC criteria.

Assembly Action:

None

Final Hearing Results

E82-06/07

AS

Code Change No: **E83-06/07**

Original Proposal

Sections: 1011.4, Chapter 35 (IFC [B] 1011.4, Chapter 45)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

1011.4 Internally illuminated exit signs. Electrically powered Internally illuminated, self-luminous and photoluminescent exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Section 2702. Exit types shall be illuminated at all times.

2. Add standard to Chapter 35 as follows:

UL

924-06 Emergency Lighting and Power Equipment

Reason: The purpose is broadening the scope of this section to include self-luminous and photoluminescent exit signs and to add the specific standard for listing of these illuminated exit signs.

The reason for the change is to provide flexibility and to add clarity to the user. Internally powered covers all exit signs that generate their own luminosity. Using the phrase "electrically-powered" will capture LED, incandescent, fluorescent, and electroluminescent. In combination with self-luminous and photoluminescent, that covers the full range of product types currently in the market.

UL 924 applies to emergency lighting and power equipment for use in unclassified locations and intended for connection to branch circuits of 600 volts or less. Such equipment is intended to automatically supply illumination or power or both to critical areas and equipment in the event of failure of the normal supply, in accordance with Article 700 or 701 of the National Electrical Code, NFPA 70, the Life Safety Code, NFPA 101, and the International Building Code, IBC. EXIT SIGN is general term used to refer to an Exit Light, Exit Fixture, and Self-Luminous or Photoluminescent Exit Sign.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A concern would be if the reference to Section 2702 for self-luminous and photoluminescent signage could be interpreted as a power requirement for signs that use no power.

The standard UL 924-06 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Indicating the three types of exit signage permitted is a good clarification for the code. UL 924 is an appropriate standard for illumination of exit signage. The standard has been revised to meet ICC criteria.

Assembly Action:

None

Final Hearing Results

E83-06/07

AS

Code Change No: **E84-06/07**

Original Proposal

Sections: **403.15 (New); 1011.6, Chapter 35 (IFC 1011.6, Chapter 45)**

Proponent: William M. Connolly, State of New Jersey, Department of Community Affairs, Division of Codes and Standards, representing International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

1. Add new text as follows:

403.15 Exit path markings. Exit path markings shall be provided in accordance with Section 1011.6.

1011.6 Photoluminescent exit path markings: Photoluminescent exit path markings (outlining stripes) complying with UL 1994 shall be provided in buildings of Group B, E, M, and R-1 with occupied floors greater than 75 feet above the lowest level of fire department vehicle access. Exit stairways where photoluminescent exit path markings are required shall be continuously illuminated and lighting shall not be controlled by motion sensors or timers.

1011.6.1 Markings (outlining stripes) within vertical exits: Markings within vertical exits shall comply with Section 1011.6.1.1 through Section 1011.6.1.4.

1011.6.1.1 Steps: Outlining stripes shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed at a maximum of ½ inch (13 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than ½ inch (13 mm) down the vertical face of the step.

1011.6.1.2 Landings: The leading edge of landings in exits shall be marked with outlining stripes consistent with the dimensional requirements for steps and shall be the same length as and consistent with the stripes on the steps or shall extend the full length of the leading edge of the landing.

1011.6.1.3 Handrails: All handrails and handrail extensions shall be marked with a stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for the entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 4 inches (102 mm).

1011.6.1.4 Floor perimeter demarcation stripes: Stair landings and other parts of the egress path, with the exception of the sides of steps, shall be provided with demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 (25 mm) to 2 inches (51 mm) wide with interruptions not exceeding 4 inches (102 mm).

1011.6.1.4.1 Floor mounted demarcation lines: Perimeter demarcation lines shall be placed within 4 inches of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

1011.6.1.4.2 Wall mounted demarcation lines: Perimeter demarcation lines shall be placed on the bottom edge of the wall no more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge. Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. Demarcation lines on walls shall continue across the face of all doors or may transition to the floor and extend across the floor in front of such doors.

2. Add standard to Chapter 35 (IFC Chapter 45) as follows:

UL

UL 1994-04 Luminous Egress Path Marking Systems, with revisions through February, 2005

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on terrorism Resistant Buildings.

The purpose of this code change is to add new requirements for photoluminescent exit path markings into the code.

The proposed new section on exit path markings will require photoluminescent exit path markings be provided in vertical exit enclosures. The Code currently has no requirements for the installation of these markings. This proposal will facilitate rapid egress and assist in full building evacuation and is drawn from Recommendations 17 and 18 of the National Institute of Standards and Technology's (NIST) report on the World Trade Center tragedy.

Up to this point, code requirements for high rise buildings were written under the assumption that the building would be evacuated floor by floor. In most instances, in a building with a full suppression system, only the floor where the fire is located and the floors immediately above and below would be evacuated. Acts of terrorism and accidental incidents like power failures have made it necessary to consider design for full building evacuation that is as rapid as possible. This may be made necessary in response to an event within the building or an event outside the building. The proposed code change to require exit path markings is intended to facilitate the most rapid possible full building evacuation.

In the City of New York, after the first bombing of the WTC, requirements were instituted to require exit path markings in vertical exit enclosures. This proposal is taken directly from those requirements.

New Section 1011.6 establishes the base requirement for the markings and requires compliance with UL 1994, a standard developed using an approved consensus process. As per this new section, the markings are required only in vertical exit enclosures. This is unlike previously unsuccessful proposals that attempted to establish requirements for low-level exit signage and exit access markings. The remainder of the new text establishes the minimum requirements for the markings.

Bibliography:

1. Reference Standard 6-1, Photoluminescent exit path markings as required by Local Law 26 of 2004, New York City Building Code, § 27-383(b)
2. National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.
3. UL 1994

Cost Impact: This proposal establishes a requirement for markings in vertical exit enclosures, which may increase costs, but only very modestly. The proponents believe that the decrease in egress and full building evacuation time outweighs the moderate cost of the markings.

Analysis: The standard UL 1994-04 has been reviewed for compliance with ICC Council Policy #28, Section 3.6. In the opinion of ICC Staff, the standard complies with ICC Criteria for referenced standards.

The action on the proposed change to Section 403.15 is dependent on the decision of the Means of Egress Committee to the remainder of the proposal, therefore, for consistency, the MEO Committee will make the determination for the entire proposal.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee agreed the intent for egress guidance had merit, but believed that there were other products that could address the exiting issues raised. Several proponents had similar proposals. The committee asked the proponents to work together to resolve issues brought up during the discussions. The proposal should be technology neutral - not just for photoluminescent materials. The markings should delineate the exit path in the enclosed exit stairway. An additional concern about E84-06/07 was that there was no explanation of the limitation to Groups B, E, M and R-1. Of special concern was no inclusion of Groups A and I. This proposal also extended the requirements outside the exit stairway by the wording in proposed Section 1011.6.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 2:

James P. Colgate, RA, Esq., Executive Architect, New York City Department of Buildings, requests Approval as Modified by this public comment.

Modify proposal as follows:

403.15 Exit path markings. Exit path markings shall be provided in accordance with Section 1027.1.6.

1027 EXIT PATH MARKINGS

1027.1 General. ~~1011.6 Photoluminescent exit path markings:~~ Photoluminescent Approved luminous exit path markings delineating the exit path (outlining stripes) complying with UL 1994 shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, of buildings of Group A, B, E, I, M, and R-1 with having occupied floors greater located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and shall comply with Sections 1027.1.1 through 1027.1.7. Exit stairways where photoluminescent exit path markings are required shall be continuously illuminated and lighting shall not be controlled by motion sensors or timers.

Exception: Exit path markings shall not be required in lobbies or areas of open parking garages, where such lobby or area is located on the level of exit discharge and complies with the exception to Section 1023.1.

~~1011.6.1 Markings (outlining stripes) within vertical exits:~~ Markings within vertical exits shall comply with Section 1011.6.1.1 through Section 1011.6.1.4.

1027.1.1 ~~1011.6.1.1 Steps:~~ Outlining A stripes shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed at a maximum of ½ inch (13 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than ½ inch (13 mm) down the vertical face of the step.

1027.1.2 ~~1011.6.1.2 Landings:~~ The leading edge of landings in exits shall be marked with outlining a stripes consistent with the dimensional requirements for steps and shall be the same length as and consistent with the stripes on the steps or shall extend the full length of the leading edge of the landing.

1027.1.3 ~~1011.6.1.3 Handrails:~~ All handrails and handrail extensions shall be marked with a stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for the entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 4 inches (102 mm).

1027.1.4 ~~1011.6.1.4 Floor perimeter demarcation lines stripes:~~ Stair landings and other parts of the floor areas within exit enclosures egress path, with the exception of the sides of steps, shall be provided with demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 (25 mm) to 2 inches (51 mm) wide with interruptions not exceeding 4 inches (102 mm).

1027.1.4.1 ~~1011.6.1.4.1 Floor mounted demarcation lines:~~ Perimeter demarcation lines shall be placed within 4 inches of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.2 ~~1011.6.1.4.2 Wall mounted demarcation lines:~~ Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe ~~no~~ no more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge. Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. ~~Where the wall line is broken by a door, D~~ demarcation lines on walls shall continue across the face of ~~the all doors or may~~ transition to the floor and extend across the floor in front of such doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.3 Transition. Where a wall mounted demarcation line transitions to a floor mounted demarcation line, or vice-versa, the wall mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor mounted demarcation line, thus forming a continuous marking.

1027.1.5 Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

1027.1.6 Materials. Luminescent exit path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 fc (10 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milicandelas per square meter after 90 minutes.

1027.1.7 Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

1027.1.7 Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

Chapter 35 (IFC Chapter 45):

UL

UL 1994-04 Luminous Egress Path Marking Systems, with revisions through February, 2005

ASTM

ASTM E 2072-04 Standard Specification for Photoluminescent (Phosphorescent) Safety Markings

Commenter's Reason: The Means of Egress Committee agreed that the intent of the provision has merit. However, because of the great number of similar proposals, the committee asked that the various proponents work together to resolve the issues. This comment amends the text from proposal E84 and draws on the standards of proposal E142. Among other recommendations, the Means of Egress Committee requested that the revised proposal be "technology neutral."

"TECHNOLOGY NEUTRAL": A fundamental characteristic of good governmental regulation is that, to the extent possible, it does not specify particular technologies, so that competition and innovation are fostered. However, the issue of technological neutrality must not be confused with the sensible restriction of materials proven to be inappropriate to a particular fire and life safety requirement. Electrically-based exit path systems are good systems that can provide much brighter luminance than photoluminescent materials, and are very useful in the right applications. However, we need to ask why we are requiring exit path markings in high-rise stairways, and whether electrically-based systems are appropriate for this specific code requirement.

For high-rise buildings, the IBC already requires electrical back-up to both exit lighting and those smokeproof enclosures that utilize mechanical means. So in an emergency condition where the backup power operates as designed, the stairs will remain lighted and smokeproof, rendering the exit path markings of limited utility. The real import of exit path markings is to provide a safe system of way-guidance in the dark, i.e. when even the backup power fails.

The lessons learned from the 1993 terrorist bombing of the World Trade Center resulted in many upgrades to the complex, including the installation of luminous exit path markings in the exits. The markings installed were photoluminescent, which meant that once the ambient lighting was removed, they will remain luminous without any additional electrical charge.

On 9/11, these exit path markings were put to use, and were later credited by NIST as a feature that aided the evacuation of the towers. The water in the stairs from the sprinklers did not affect the photoluminescent markings because there was no electrical wiring or circuitry to get wet or short-circuit. The explosion and vibration did not affect the photoluminescent markings because there were no wires or circuits to sever. The fire and heat on the upper floors did not affect the photoluminescent markings on the lower floors since there were no wires or circuits to melt or burn. On 9/11, the exit path markings worked, unlike other, electrically-based features that failed that day, because the photoluminescent markings did not rely on electricity, alarms, wires, or circuitry.

The extensive experience that the New York City Department of Buildings has had with egress failures in high rise buildings underscores this point. We are responsible for approximately 8,000 high rise buildings. When the August 2003 Northeast power grid blackout hit New York City, many of our high-rise buildings' emergency exit lighting systems failed, including in the municipal office building in which I work. Most of the failures stemmed from faulty maintenance of batteries or generators, and in some cases from improper installations. But the fact is that many people, including me and my staff, were left wholly in the dark.

New York City took the lead in this area and, pursuant to its in-depth Report of the World Trade Center Building Code Task Force, enacted a local law in 2004 requiring exit path markings that do not rely on electricity, despite objections from the electroluminescent industry. The local law requires photoluminescent exit path markings to be installed retroactively in all of our approximately 1,700 existing high-rise office buildings.

To argue that electrically-based path making must be permitted in this code change, in the name of technological neutrality, is thus incorrect. Rather, what we must do as code officials charged with protecting the public is to distinguish between "technology neutral" and "technology appropriate." New York City's assessment is that electrically-based exit path systems in high rise buildings that already have backup power and smokeproof enclosures is not the appropriate technology. What is appropriate is a system of luminous markings that do not rely on an electrical charge, which is what this comment, if approved, would require.

OTHER COMMENTS:

1. **Section 403.13.** The only modification here is to point the user to the new section 1027.
2. **Section 1011.** The original proposal would have appended the requirements for exit path markings to Section 1011, which currently deals only with exit signs – i.e. the signs placed above doors and near the ceiling directing people to exits. Rather than complicate Section 1011 with an unrelated new concept of path markings to be located only within enclosed exits, a new Section 1027 is added to include all the low-location exit path markings. This now neatly divides the two topics, similar to New York City's local modifications to the IBC. Therefore, the title of Section 1011 reverts to the current IBC text; all exit path markings are relocated to Section 1027.
3. **Section 1027.1 (formerly 1011.6).** The term "outlining stripes" is deleted because of possible confusion with the subsequent term "demarcation lines"; instead, the phrase "delineating the exit path" is added, as requested by the Means of Egress Committee to clarify what the markings are intended to do. The text of the original proposal would have required exit path markings for the entire "exit path" or "egress path", which could include all portions of the means of egress including exit access – and would therefore have been too broad a requirement. The Means of Egress Committee recommended modifying the proposal in application only to the "enclosed exit stairway". But only the enclosed exit stairway would have been too narrow, since it would not have included enclosed transfer exit passageways – the marking of which was deemed important by the WTC Building Code Task Force. Therefore, the phrase "exit enclosures, including vertical exit enclosures and exit passageways" is added to specify where in the high rise building exit path markings are required, and make clear that exit access corridors are not included. For organizational improvement, the requirements for materials (reference standards) and lighting are relocated to Sections 1027.1.6 and 1027.1.7. Group A and I occupancies are added in response to concerns expressed by the Means of Egress Committee; the nature of these occupancies, and the occupants' lack of familiarity with the exits, justifies the safeguards as a minimum requirement. In addition, an exception is added to exempt lobbies at the level of exit discharge.
4. **Former section 1011.6.1.** Due to the simplified organization, the scoping provisions formerly contained in section 1011.6.1 are now incorporated in to Section 1027.1. Therefore, the former section 1011.6.1 is deleted.
5. **Section 1027.1.1 (formerly 1011.6.1.1).** The term "outlining stripes" is deleted because of possible confusion with the subsequent term "demarcation lines". The minimum 1" width is maintained, as it is crucial to achieve minimum visibility for the visually impaired, and follows established 1" minimum standards (e.g., ASTM E 2072-04 and NYC RS 6-1). The 2" maximum width is crucial to prevent the visual illusion that occurs in the dark when overly-thick markings on the various steps merge into one glowing object; the 2" maximum follows an established requirement (e.g., NYC RS 6-1). The maximum ½" overlap is important to prevent confusion in the dark by making clear to the occupant what represents the top plane of the steps, following an established minimum requirement (e.g., NYC RS 6-1).
6. **Section 1027.1.2 (formerly 1011.6.1.2).** The term "outlining stripes" is deleted because of possible confusion with the subsequent term "demarcation lines". The word "exit" is removed because this idea is already provided for in the scoping provisions for Section 1027.1. The last phrase is removed as it is redundant.
7. **Section 1027.1.3 (formerly 1011.6.1.3).** The minimum 1" width is maintained, as it is crucial to achieve minimum visibility for the visually impaired, and follows established 1" minimum standards (e.g., ASTM E 2072-04 and NYC RS 6-1).

8. **Section 1027.1.4 (formerly 1011.6.1.4).** As requested by the Means of Egress Committee, the proposal is modified to be specific that it only applies to the exit enclosures. The minimum 1" width is maintained, as it is crucial to achieve minimum visibility for the visually impaired, and follows established 1" minimum standards (e.g., ASTM E 2072-04 and NYC RS 6-1).
9. **Section 1027.1.4.1 (formerly 1011.6.1.4.1).** An exception is added to clarify that markings shall not extend in front of discharge doors.
10. **Section 1027.1.4.2 (formerly 1011.6.1.4.2).** A clarification is added indicating from where the 4" measurement is taken. This will allow the stripe to be placed above a standard 3 ½ -inch base molding, while still keeping the stripe low enough to signify to the occupant that it represents the intersecting planes of the wall and the floor. In tests conducted by NYC prior to the establishment of its RS 6-1, luminescent markings that were placed too high on the wall caused occupants to be unable to discern in the dark where the floor was. Language is added to clarify the two options for marking the door – either across the door or on the floor in front of it. An exception is added to clarify that markings shall not extend in front of discharge doors.
11. **Section 1027.1.4.3.** Clarifies ambiguous language in the former Section 1016.6.1.4. The new language makes clear that the owner has the option of wall-mounted or floor-mounted stripes, and that the stripes may transition from one to the other.
12. **Section 1027.1.5.** Clarifies that the placement and dimensions must be uniform.
13. **Section 1027.1.6.** Relocates the technical requirements for the materials to this section for organizational improvement. ASTM E 2072 is added as an option, in addition to UL 1994. (Note that ASTM E 2072 had been specified in Proposal E 142 by David Frable, US GSA, and was found to comply with ICC Council Policy #28). The original E84 proposal provided UL 1994 as the only standard. However, UL 1994 does not recognize the use of photoluminescent paints, which the New York City Department of Buildings has found an important type of product to achieve safe results and avoid tripping hazards, particularly in retrofits where the substrate is more likely to be uneven. ASTM E 2072 permits photoluminescent paints, and is therefore added for technological neutrality, in accordance with the comments of the Means of Egress Committee. The addition of ASTM E2073 as an option pulls together the proposals E84 and E142. The charging source for ASTM E 2072 has been changed to 1 footcandle with 5 mcd/m² to be consistent with the means of egress illumination requirements of IBC Section 1006.2.
14. **Section 1027.1.7.** The illumination provisions for photoluminescent products have been relocated from 1011.6 to this new subsection to provide additional clarity.

A note about New York City's Reference Standard RS 6-1. The International Code Council's Ad Hoc Committee on Terrorism-Resistant Buildings' proposal for E84 was based in large part on NYC's RS 6-1, and there are therefore many references to NYC RS 6-1 in this comment. The NYC RS 6-1 was developed by the New York City Department of Buildings' architects and engineers after over one year of research of all available relevant standards, including but not limited to those published by the ASTM, UL, ISO, IMO, APTA (American Public Transportation Association). In addition, the department performed outreach and consultation with the various industries, including those from overseas. The Buildings Department also inspected mock-up/test installations of luminescent markings in various permutations, with different placement and dimensional configurations, to ensure that the resulting standards were adequate and appropriate. The result of all this research was a draft standard that was published for public comment – the public hearing on the proposal drew over 80 attendees representing a wide range of egress and safety experts. As a result of the public comment, the draft standard was refined and published in final form on May 31, 2005. Since then over 1000 installations have been completed in high rise buildings pursuant to this standard. It is on the basis of this experience that this comment is being made.

Bibliography:

1. ASTM E 2072-04, Standard Specification for Photoluminescent (Phosphorescent) Safety Markings
2. National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapse of the World Trade Center Towers. United States Printing Office: Washington, DC. September 2005.
3. City of New York, Department of Buildings. Building Code Reference Standard RS 6-1 and 6-1A (available at http://www.nyc.gov/html/dob/downloads/pdf/rs_6-1.pdf). Promulgated May 31, 2005.
4. City of New York, Department of Buildings. World Trade Center Building Code Task Force: Findings and Recommendations (available at <http://home2.nyc.gov/html/dob/downloads/pdf/wtcbctf.pdf>). February, 2003.
5. City of New York. Local Law 26 of 2004, Section 15, modifying Building Code Section 27-283 (available at http://www.nyc.gov/html/dob/downloads/bldgs_code/locallaw26of04.pdf). Enacted May 24, 2004.
6. UL 1994-04, Luminous Egress Path Marking Systems, with revisions through February, 2005.

Cost Impact: The statements made by the original proponent of E84 about the cost impacts are not affected by the amendments proposed herein.

Final Hearing Results

E84-06/07

AMPC2

Code Change No: E86-06/07

Original Proposal

Sections: 1012.2 (IFC [B] 1012.2)

Proponent: Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

Revise as follows:

1012.2 Height. Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices, measured above tread nosings shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The purpose of this proposed change is to replace the current handrail height requirements for alternating tread devices, which are inappropriately based on the handrail height requirements for traditional type stairs, with new handrail height requirements more appropriate to alternating tread devices.

This proposal is superior to the current provisions of the code in that it rectifies shortcomings in the existing code for alternating tread device handrail height. The current required handrail height of alternating tread devices of 34 inches to 38 inches is based on the required handrail height of traditional type stairs which have stair angles much lower than alternating tread devices. This alternating tread device handrail height appears to have been chosen arbitrarily, assuming that the handrail height best suited for traditional type stairs would also be best for alternating tread devices. Although they have treads as a traditional stair does, alternating tread devices have considerable different characteristics (the most important being a much steeper angle) from a traditional stair and thus the requirements for the features for an alternating tread device often must differ from a traditional stair. The alternating tread device features result in differences of handrail use such as, different arm posture, the hand gripping the handrail near a higher part of the body and the use of the handrails under the arms for stabilization. Therefore, a lower handrail height of 30 inches to 34 inches is more appropriate for alternating tread devices.

Alternating tread devices have been used for approximately 25 years with handrail heights (measured vertically from the tread nosings to the top of the handrail) of approximately 32 inches. Lapeyre Stair is not aware of any cases where this handrail height has been a problem for users of alternating tread devices. Prior to release of the alternating tread device, Lapeyre Stair performed informal testing to verify that this is the most appropriate handrail height. Additionally, a scientific study titled "Performance, perceived safety and comfort of the alternating tread stair" was performed that demonstrated the satisfactory use of alternating tread devices. The 34 inch to 38 inch handrail height requirement for alternating tread devices appears to have first been introduced in sections 1003.3.3.10.1 and 1003.3.3.11.1 of IBC-2000 and then carried forward to sections 1009.10.1 and 1009.11.1 of IBC-2003. The precursor codes to IBC appear either not to discuss alternating tread device handrail height or to allow whatever handrail height provides safe use of the device. (Ref: BOCA-1999 Sections 1014.6.6.1 and 1022.2.5, SBC-1999 Section 1007.8.4 and 1007.8.5; UBC Section 1003.3.3.1). Furthermore, Lapeyre Stair is not aware of any documented scientific testing to verify that the current handrail heights in IBC for alternating tread devices are the most appropriate. Finally, an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicates that the current handrail height in the IBC may not be appropriate for alternating tread devices, and a code official could approve an alternating tread device with a handrail height inconsistent with IBC, Section 1012.2.

The lower handrail height for alternating tread devices does not substantially alter the design of alternating tread devices, and actually results in less occupied space which could minimally lower costs.

Bibliography:

The BOCA National Building Code/1999 Sections 1014.6.6.1 & 1022.2.5

Standard Building Code 1999 Edition Sections 1007.8.4 & 1007.8.5

1997 Uniform Building Code Section 1003.3.3.1 (exception)

Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: It is reasonable on alternating tread devices to allow for a lower handrail for safety reasons.

Assembly Action:

None

Final Hearing Results

E86-06/07

AS

Code Change No: E88-06/07

Original Proposal

Sections: 1012.3 (IFC [B] 1012.3)

Proponent: David W. Cooper, Stairway Manufacturers' Association

Revise as follows:

1012.3 Handrail graspability. All required handrails shall meet Type I criteria as follows or shall provide equivalent graspability.

Type I. Handrails with a circular cross-section shall have an outside diameter of at least 1.25 inches (32 mm) and not greater than 2 inches (51 mm) ~~or shall provide equivalent graspability~~. If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6.25 inches (160 mm) with a maximum cross-section dimension of 2.25 inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

Exception: In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; handrails shall be Type I, Type II as follows or shall provide equivalent graspability.

Type II. Handrails with a perimeter greater than 6.25 inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of .75 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least .3125 inch (8 mm) within .875 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least .375 inch (10mm) to a level that is not less than 1.75 inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1.25 inches (32 mm) to a maximum of 2.75 inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

Reason: The purpose of the change is to add new requirements to the code. This proposal is offered only as an alternative to our other change to this section, which would allow a more comprehensive solution.

Other types of rail have been proven to be equivalent to, or better than those currently allowed. Although this proposal will allow the use of additional types of rails now restricted from the code. The Type II shape allows for the development of new ergonomic profiles that could exceed the properties of the limited handrail options now allowed in the IBC. Such options would not only permit the design of profiles for those with impairments, unable to close their hand to grasp small round objects, but also would allow greater flexibility to the designer that must respond to the aesthetic preferences of the consumer, thereby encouraging long-term and committed compliance with code regulations. Because this proposals scope is only for residential use these advantages would be severely compromised and only available to persons in the home environment.

The handrail shape description that is proposed for Type II handrails has been developed by independent researchers retained by the SMA to investigate graspability of handrails. Acting without specific mandate from SMA, these researchers developed and implemented tests, experiments, and analyses that revealed stairway fall kinematics, the forces that stairway users exert on handrails during falls, and the forces that persons in the general population can exert on handrails of various shapes.

Specifically, through a collaborative effort with researchers at the University of Toronto, the primary researchers – engineers with Simpson Gumpertz & Heger Inc. – conducted tests with human subjects to determine forces exerted on handrails. During these tests, test subjects stood on an activated stairway in postures and positions that represent those of a descending stairway user. Then, the stairway was induced to move forward and then suddenly stopped to cause the test subjects to lurch forward. By setting certain test parameters and through the introduction of barriers that prevented the test subjects from recovering, test subjects fell forward while attempting to arrest their fall by grabbing a handrail. During these tests, the researchers measured the forces exerted on the handrail and monitored the movements of the test subjects to understand fall kinematics.

To account for the broad variation in human stature, the researchers used a computer program, calibrated against the Toronto tests with live subjects, to extrapolate those test results to determine forces generated on handrails by persons representing the distribution within the population.

In a separate set of tests, the researchers investigated forces that persons can exert on handrails of various shapes. For these studies, the researchers developed test apparatus that allowed test subjects to grasp segments of handrails, which were then pulled by a motor out of the test subjects' grasp while forces were recorded. The test subjects were in a seated position (which represents a position that is similar to the posture that persons falling on stairways attain at the time they are exerting maximum arresting force on handrails), and forces were measured in three orthogonal directions: transverse, perpendicular upward, and longitudinal relative to the rail. Hundreds of tests were performed with dozens of test subjects ranging in age from sub-adolescent to elderly.

These tests, experiments, and analyses evaluated round handrails and a broad range of dimensions of handrails that are not round. With the results of these studies, the researchers conducted statistical analyses to determine the proportion of the population that would likely not be able to maintain a grasp on handrails of various shapes during a fall. Using this method, the researchers determined which shapes are graspable (meaning, at least as likely as round handrails to be secure handholds in actual fall scenarios). These statistical analyses showed that Type II handrails have graspability that is essentially equal to or greater than the graspability of handrails meeting the long-accepted and codified shape defined in this proposal as Type I (essentially round handrails, of common size).

The key feature of the graspability of Type II handrails is graspable finger recesses on both sides of the handrail. These recesses allow users to firmly grip a properly proportioned grasping surface on the top of the handrail, ensuring that the user can tightly retain a grip on the handrail for all forces that are associated with attempts to arrest a fall. In addition, Type II handrails have been shown to more than serve adequately for "guidance and support" as required by codes.

The research conducted by these independent researchers validates experience with handrails in service. Handrails meeting the Type II definition have been in service for perhaps hundreds of years without documentation that there is any deficiency in their functional characteristics. Indeed, some handrails conforming to the Type II definition perhaps are among the most common shapes presently used in the United States. Furthermore, by adopting the definition of Type II handrails in the IBC, we will be positively excluding from use a wide spectrum of handrail shapes that also are in common use, but do not meet the standard for graspability that has led to this proposal. With the adoption of this proposal, much of the uncertainty about what constitutes "equivalent graspability" will be removed, since a specific definition of acceptable alternative shapes will be introduced and codified.

The Type II definition has been expressly included in the IRC for five years. During that time, this shape definition has become a standard for determining the suitability of handrail shapes, even in jurisdictions that have not adopted the IRC. Furthermore, the SMA is aware of no documentation that suggests that inclusion of the Type II definition in the IRC has in any way diminished safety of handrails.

The adoption of the Type II shape allows the use of viable, lower-cost, safe handrails. Without allowing Type II shapes, we run the risk that economical and fully functional handrail designs (including those of wood, which require closely-spaced supports which potentially interfere with the grasping surface of round handrails) will be unreasonably excluded from use, to the detriment of the population which is entitled to cost-efficient construction when it has been demonstrated to be safe. Acceptance of the Type II shape would once again permit the use of low-cost, renewable-resource handrail shapes, all but eliminated as an option for the jurisdictions adopting the current IBC code.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

The research and testing summarized above has been published and is available on the Internet as listed below in the bibliography. We believe that these landmark studies, sponsored by the SMA but performed by independent researchers, constitute the most thorough and legitimate research on handrail graspability performed anywhere in the world.

Bibliography:

[Dusenberry, D.O., Simpson, H., DelloRusso, S.J., and Rao, R.S., "Evaluation of Graspability of Handrails During Falls on Stairs," Presented at the Proceedings of the 13th Conference of Engineering Mechanics, Baltimore, MD, 13-16, June, 1999, <http://www.sgh.com/PDFs/Dusenberry.pdf>](#)
Maki, B.E. and Perry, S.D. (1996). "Influence of Handrail Design on Postural Stabilization: Pilot Phase." Report prepared for the Stairway Manufacturer's Association under contract to Simpson Gumpertz & Heger Inc., Arlington, MA.
http://www.stairways.org/code_changes/Influence_HandrailDesign.pdf

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal is limited to handrails along stairways within individual dwelling units in Group R-2 and R-3. Approval will allow for coordination with the IRC. The studies have proved that these handrails proposed as Type II would result in handrails which provide equivalent graspability to what is currently permitted in the code.

Assembly Action:

None

Final Hearing Results

E88-06/07

AS

Code Change No: E89-06/07

Original Proposal

Sections: 1012.4 (IFC [B] 1012.4)

Proponent: David W. Cooper, Stairway Manufacturers' Association

Revise as follows:

1012.4 Continuity. Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a turn stair landing.
2. Within a dwelling unit, the use of a volute, turnout, ~~or~~ starting easing or starting newel is allowed ~~on~~ over the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1.5 inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each 0.5 inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1.5 inches (38 mm) shall be permitted to be reduced by 0.125 inch (3 mm).

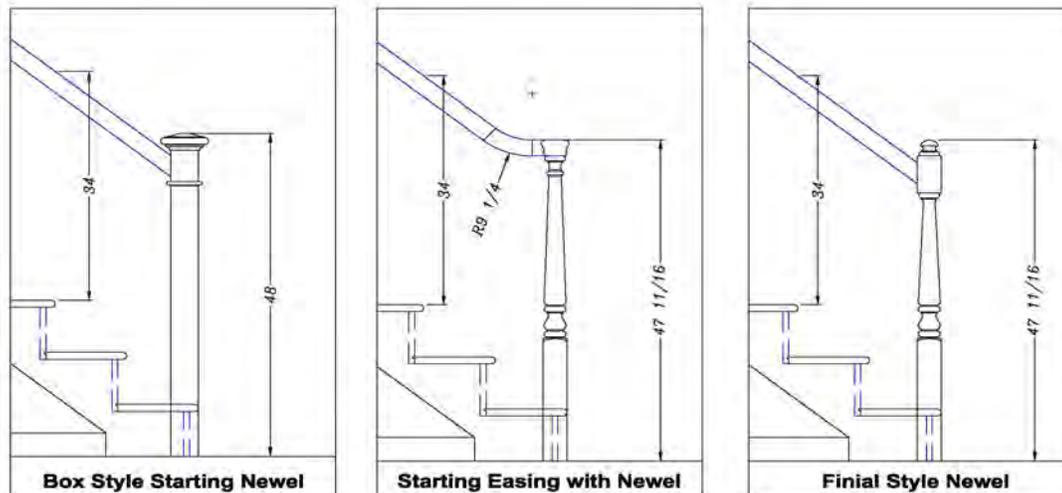
Reason: The proposed change will make editorial corrections required as well as clarify the use of newels

The need to allow the use of a newel at intersections of the rail in dwelling units at a turn in the stair to provide for the use of newels within a flight has been recognized and allowed within the IRC and should be included in the IBC to allow lower cost options that have not caused any known attributable safety issues.

The use of a starting newel, like starting fittings, been a historically accepted practice in stairway construction and design. A starting newel installation presents no variance in the continuity of the handrail when compared to starting fittings and should be permitted. Please see attached graphic. As the user approaches the stair, if they use the handrail, the hand is extended more than the distance of one tread to grasp the rail.

This is visually apparent in the wear marks on rails that extend beyond the nosing. The placement of the newel over the lowest step also allows for the post to be attached to the stair shortening the overall length of the stairway allowing more room to fit larger tread depths in the same space.

The editorial change in the preposition from “on” to “over” more clearly describes the position of the listed items to the lowest tread and has been used in the IRC with consistent interpretation.



FOR COMPARISON EACH OF THE ABOVE CONDITIONS ARE SHOWN ON THE SAME STAIR AT THE SAME RAIL HEIGHT

The above illustration shows little or no variation in continuity for the stairway user.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1012.4 Continuity. Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a turn or stair landing.
2. Within a dwelling unit, the use of a volute, turnout starting easing or starting newel is allowed over the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1.5 inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each 0.5 inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1.5 inches (38 mm) shall be permitted to be reduced by 0.125 inch (3 mm).

Committee Reason: The proposal will provide clarification for different stair configurations. The modification would allow for landings at L or U shaped stairways to have newel posts at the corners.

Assembly Action:

None

Final Hearing Results

E89-06/07

AM

Code Change No: **E90-06/07**

Original Proposal

Sections: 1012.4 (IFC [B] 1012.4)

Proponent: Bill Conner, Conner Associates LLC, representing himself

Revise as follows:

1012.4 Continuity. Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a stair landing.
2. Within a dwelling unit, the use of a volute, turnout or starting easing is allowed on the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1.5 inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each 0.5 inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1.5 inches (38 mm) shall be permitted to be reduced by 0.125 inch (3 mm).
4. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

Reason: Sometime handrails are provided for patient use in nursing homes and hospitals along hallways. In these situations, it would not be practicable to require them to meet the gripping surface and still work as a bumper guard or handrail. While a patient may fall in a corridor, they do not have the same safety concern of continuing to fall, such as on a stairway, therefore, this compromise would not create a safety concern. The change is also for coordination with ADAAG and ICC A117.1 Section 505.6

Cost Impact: This code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Handrails located along areas other than ramps and stairways are used differently. The new exception is useful for rails that serve as walking aids along hallways. The change would also coordinate with ICC A117.1.

Assembly Action:

None

Final Hearing Results

E90-06/07

AS

Code Change No: **E91-06/07**

Original Proposal

Sections: 1012.5 (New) [IFC [B] 1012.5 (New)]

Proponent: Bill Conner, Conner Associates LLC, representing himself

Add new text as follows:

1012.5 Fittings. Handrails shall not rotate within their fittings.

(Re-number subsequent sections)

Reason: This is an important safety concern that is not currently in the IBC requirements. This will also coordinate with ADAAG and ICC A117.1 Section 505.9.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal addresses a safety hazard commonly found in the field. This proposal will also coordinate with ICC A117.1.

Assembly Action:

None

Final Hearing Results

E91-06/07

AS

Code Change No: **E93-06/07**

Original Proposal

Sections: 1012.5 (IFC [B] 1012.5)

Proponent: Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

Revise as follows:

1012.5 Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom ramps.

Exceptions:

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A occupancies in accordance with Section 1025.13.

3. Handrails for alternating tread devices may terminate at a location vertically above the top and bottom risers.
Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

Reason: The purpose of this proposed change is to remove the current requirements for handrail continuity between flights of alternating tread devices and to remove the requirements for handrail extensions at the top and bottom of non-continuous flights of alternating tread devices.

This proposal is superior to the current provisions of the code in that it removes overly restrictive requirements for handrails of alternating tread devices. The current required handrail extension of alternating tread devices of 12 inches horizontally beyond the top riser and the slope of one tread depth beyond the bottom riser, as well as the requirement for handrail continuity between adjacent flights is based on the requirements for handrails of traditional type stairs. The alternating tread device handrail extension and continuity requirements appear to have been chosen arbitrarily, assuming that the handrail requirements best suited for traditional type stairs would also be best for alternating tread devices. However, considering alternating tread devices are typically used as a safer alternative to a ladder, typically used in tight spaces where traditional type stairs cannot be used, have stair angles much steeper than traditional type stairs, and have different usage than traditional type stairs, removal of the existing extension and continuity requirements is appropriate.

Alternating tread devices have been used for approximately 25 years without handrail extensions or continuous handrails been flights. Lapeyre Stair is not aware of any cases where these handrail features has been a problem for users of alternating tread devices. Alternating tread device handrails without extensions or continuity between flights have proved to provide adequate gripping length to allow the user to safely reach the top or bottom landing. Prior to release of the alternating tread device, Lapeyre Stair performed informal testing to verify the acceptability of this handrail configuration. Additionally, a scientific stud titled "Performance, perceived safety and comfort of the alternating tread stair" was performed that demonstrated the satisfactory use of alternating tread devices. The handrail extension and continuity requirements for alternating tread devices appears to have first been introduced in sections 1003.3.3.10.1, and 1003.3.3.11.5 of IBC-2000 and then carried forward to sections 1009.10.1 and 1009.11.5 of IBC-2003. The precursor codes to IBC appear not to discuss alternating tread device handrail extensions or continuity or to allow whatever handrail configuration provides safe use of the device. (Ref: BOCA-1999 Sections 1014.6.6.1 and 1022.2.5, SBC-1999 Section 1007.8.4 and 1007.8.5; UBC Section 1003.3.3.1). Finally, in an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicates that the current handrail extension requirements in the IBC may not be appropriate for alternating treads, and of alternative approval for an alternating tread device without handrail extensions may be acceptable. The elimination of extension and continuity requirements of handrails for alternating tread devices does not substantially alter the design of alternating tread devices, and actually results is less occupied space which could minimally lower costs.

Bibliography:

The BOCA National Building Code/1999 sections 1014.6.6.1 & 1022.2.5
Standard Building Code 1999 Edition sections 1007.8.4 & 1007.8.5
1997 Uniform Building Code section 1003.3.3.1 (exception)
Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The unique configuration of alternating tread devices makes an exception for the handrail extensions reasonable.

Assembly Action:

None

Final Hearing Results

E93-06/07

AS

Code Change No: E99-06/07

Original Proposal

Sections: 1013.2 (IFC [B] 1013.2)

Proponent: Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

Revise as follows:

1013.2 Height. Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, adjacent walking surface or adjacent seatboard.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (1067 mm) measured vertically from the leading edge of the stair tread nosing.
2. The height in assembly seating areas shall be in accordance with section 1024.14.
3. Along alternating tread device, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

Reason: The purpose of this proposed change is to replace the current guardrail height requirements for alternating tread devices, which are inappropriately based on the guardrail height requirements for traditional type stairs, with new guardrail height requirements more appropriate to alternating tread devices. This change also allows the top rail of a guardrail to also be used as a handrail.

This proposal is superior to the current provisions of the code in that it rectifies shortcomings in the existing code for alternating tread device guard requirements. The current required guardrail height of alternating tread devices of 42 inches is based on the required guardrail height of traditional type stairs which have a stair angles much lower than alternating tread devices. This alternating tread device guardrail height appears to have been chosen arbitrarily, assuming that the guardrail height best suited for traditional type stairs would also be best for alternating tread devices. Although they have treads as a traditional stair does, alternating tread devices have considerable different characteristics (the most important being a much steeper angle) from a traditional stair and thus the requirements for the features for an alternating tread device often must differ from a traditional stair. Considering that the steeper angle of alternating tread devices and that the rails are often used under the arms for stabilization, a lower guardrail height of 30 inches to 34 inches is more appropriate and the existence of a separate handrail and guardrail is unnecessary for alternating tread devices.

Alternating tread devices have been used for approximately 25 years with a single rail, with a height (measured vertically from the tread nosings to the top of the rail) of approximately 32 inches, acting both as a guardrail and a handrail. Lapeyre Stair is not aware of any cases where this rail height has been a problem for users of alternating tread devices. Prior to release of the alternating tread device, Lapeyre Stair performed informal testing to verify that this is the optimal rail height. Additionally, a scientific stud titled "Performance, perceived safety and comfort of the alternating tread stair" was performed that demonstrated the satisfactory use of alternating tread devices. The 42 inch guardrail height requirement for alternating tread devices appears to have first been introduced in sections 1003.2.12 and 1003.2.12.1 of IBC-2000 and then carried forward to section 1012.1 and 1012.2 of IBC-2003. The precursor codes to IBC are unclear or appear not to discuss alternating tread device guardrail height at all. (Ref: BOCA-1999 Sections 1014.6.6.1, 1021.2, 1022.2.2 and 1022.2.5, SBC-1999 Sections 1007.5, 1007.8.4 and 1007.8.5, 1015.1; UBC Section 1003.3.3.1, 1003.3.3.7, 509.1 and 509.2). Furthermore, there does not appear to be any documented scientific testing to verify that the current guardrail heights in IBC for alternating tread devices are the most appropriate. Finally, an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicated that the current rail height in the IBC may not be appropriate, and alternative approval of an alternating tread device with a rail configuration inconsistent with IBC, Section 1013.2 may be appropriate. The lower guardrail height and allowing a single rail to act as both a guardrail and a handrail for alternating tread devices does not substantially alter the design of alternating tread devices, and actually results in less construction cost and less occupied space which could minimally lower costs.

Bibliography:

The BOCA National Building Code/1999 Sections 1014.6.6.1, 1021.2, 1022.2.2 and 1022.2.5

Standard Building Code 1999 Edition Sections 1007.5, 1007.8.4 and 1007.8.5, 1015.1

1997 Uniform Building Code Section 1003.3.3.1 (exception), 1003.3.3.7, 509.1 and 509.2

Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The locations of where alternating tread devices are permitted is limited, therefore a lower guard height is appropriate.

Assembly Action:

None

Final Hearing Results

E99-06/07

AS

Code Change No: **E100-06/07**

Original Proposal

Sections: 1013.3 (IFC [B] 1013.3)**Proponent:** Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.**Revise as follows:**

1013.3 Opening limitations. Open guards shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.

Exceptions:

1. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway shall be of a maximum size such that a sphere of 6 inches (152 mm) in diameter cannot pass through the opening.
2. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening.
3. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices, balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches (533 mm) to pass through any opening.
4. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.
5. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, openings for required guards on the sides of stair treads shall not allow a sphere of 4.375 inches (111 mm) to pass through.

Reason: The purpose of this proposed change is to replace the current requirements for guard openings for alternating tread devices, which are inappropriately based on the requirements for guard openings for traditional type stairs, with new requirements for guard openings more appropriate to alternating tread devices.

This proposal is superior to the current provisions of the code in that it rectifies shortcomings in the existing code for requirements of, and provides clarification for, guard openings on alternating tread devices. The current requirements for guard openings of alternating tread devices are identical to the required guard openings of traditional type stairs. IBC currently requires open guards on stairs to have baluster or ornamental patterns such that a 4 inch diameter sphere cannot pass through (with exceptions above 34 inches and between the tread, riser and bottom rail). IBC provides an exception which allows guard openings such that a 21 inch diameter sphere cannot pass through for guards in areas not open to the public within occupancies in Group I-3, F, H or S. Requirements for guard openings on alternating tread devices appears to have not been addressed in the code, and by lack of any other requirements default to the requirements for traditional type stairs. Alternating tread devices are not limited to uses within the occupancies in Group I-3, F, H or S. In addition to use in the areas of these occupancies, alternating tread devices can be used for access to a.) unoccupied roofs (1009.11), b.) boiler, a incinerator and furnace rooms (1015.3) c.) refrigeration machinery rooms (1015.4) and d.) catwalks, gridirons and galleries used for stages (1015.6.1). None of the uses allowed in IBC for alternating tread devices are of the type such that the device would require guards with openings such that a 4 inch diameter sphere could not pass through. Guard requirements for alternating tread devices in uses than other Group I-3, F, H or S would therefore be unnecessarily restrictive by not allowing guard openings such that a 21 inch diameter sphere could not pass through.

Alternating tread devices have been used for approximately 25 years without guards having openings such that a 4 inch sphere cannot pass through. Lapeyre Stair is not aware of any cases where the guards have been a problem for users of alternating tread devices. Alternating tread devices are typically not used in locations where the 4 inch sphere rule would apply (i.e. where small children would use the device, etc.). The guardrail opening requirement for alternating tread devices appears to have first been introduced in section 1003.2.12.2 of IBC-2000 and then carried forward to section 1012.3 of IBC-2003. The precursor codes to IBC are unclear or appear not to discuss alternating tread device guardrail openings. (ref: BOCA-1999 Sections 1014.6.6, 1021.3 and 1022.2.5, SBC-1999 Sections 1007.8.4 and 1007.8.5, 1015.3; UBC Section 1003.3.3.1, 1003.3.3.7 and 509.3). Finally, in an IBC code interpretation letter dated July 23, 2004 to Fanning/Howley Associates Inc, indicated that rail requirements in the IBC may not be appropriate for alternating tread devices, and alternate approval of an alternating tread device with a rail configuration inconsistent with IBC, Section 1013.3 may be acceptable. Allowing a 21 inch guard opening in alternating tread devices does not substantially alter their design of, and actually results in less construction cost.

Bibliography:

The BOCA National Building Code/1999 sections 1014.6.6, 1021.3, and 1022.2.5
Standard Building Code 1999 Edition sections 1007.8.4 and 1007.8.5, 1015.3
1997 Uniform Building Code section 1003.3.3.1 (exception), 1003.3.3.7 and 509.3

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The locations of where alternating tread devices are permitted is limited, therefore a large guard opening is appropriate. This would be consistent with the committee action on E99-06/07.

Assembly Action:**None**

Final Hearing Results

E100-06/07**AS**
Code Change No: E104-06/07

Original Proposal

Sections: 1014.2.2 (IFC [B] 1014.2.2)**Proponent:** John Williams, Construction Review Services, Washington State Department of Health**Revise as follows:**

1014.2.2 Group I-2. Habitable rooms or suites in Group I-2 occupancies shall have an exit access door leading directly to a corridor.

Exceptions:

1. Rooms with exit doors opening directly to the outside at ground level.
2. Patient sleeping rooms are permitted to have one intervening room if the intervening room is not used as an exit access for more than eight patient beds.
3. Special nursing suites are permitted to have one intervening room where the arrangement allows for direct and constant visual supervision by nursing personnel.
4. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through one intervening room where the travel distance to the exit access door is not greater than 100 feet (30 480 mm).
5. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).

Suites of sleeping rooms shall not exceed 5,000 square feet (465 m²). Suites of rooms other than patient sleeping rooms shall not exceed 10,000 square feet (929 m²). Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m²) shall have at least two exit access doors remotely located from each other. Any room or suite of rooms other than patient sleeping rooms of more than 2,500 square feet (232 m²) shall have at least two exit access doors remotely located from each other. The travel distance between any point in a Group I-2 occupancy and an exit access door in the room shall not exceed 50 feet (15 240 mm). The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).

Reason: The purpose of the proposed change is to clarify the required access to exits provided in a non sleeping suite of patient rooms. The term "access door" is not consistent with similar requirements in this section. This change would mend an omission to the original text The charging statement of this code refers to an "exit access door". All other requirements in this section that relate to size of suites and access to exits use the term "exit access door".

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal will provide consistency in the code for the use of the term 'exit access'.

Assembly Action:

None

Final Hearing Results

E104-06/07

AS

Code Change No: **E105-06/07**

Original Proposal

Sections: 1014.2.2, 1014.2.3 through 1014.2.5 (New) [IFC [B] 1014.2.2, [B] 1014.2.3 through [B] 1014.2.5 (New)]

Proponent: John Williams, Construction Review Services, Washington State Department of Health

Delete and substitute as follows:

1014.2.2 Group I-2. Habitable rooms or suites in Group I-2 occupancies shall have an exit access door leading directly to a corridor.

Exceptions:

1. Rooms with exit doors opening directly to the outside at ground level.
2. Patient sleeping rooms are permitted to have one intervening room if the intervening room is not used as an exit access for more than eight patient beds.
3. Special nursing suites are permitted to have one intervening room where the arrangement allows for direct and constant visual supervision by nursing personnel.
4. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through one intervening room where the travel distance to the exit access door is not greater than 100 feet (30 480 mm).
5. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).

Suites of sleeping rooms shall not exceed 5,000 square feet (465 m²). Suites of rooms other than patient sleeping rooms shall not exceed 10,000 square feet (929 m²). Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m²) shall have at least two exit access doors remotely located from each other. Any room or suite of rooms other than patient sleeping rooms of more than 2,500 square feet (232 m²) shall have at least two access doors remotely located from each other. The travel distance between any point in a Group I-2 occupancy and an exit access door in the room shall not exceed 50 feet (15 240 mm). The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).

1014.2.3 Suites in patient sleeping areas. Patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites if one of the following conditions is met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

1014.2.3.1 Area. Suites of sleeping rooms shall not exceed 5,000 square feet (465 m²).

1014.2.3.2 Exit access. Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93m²) shall have at least two exit access doors remotely located from each other.

1014.2.3.3 Travel distance. The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).

1014.2.4 Suites in areas other than patient sleeping areas. Areas other than patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites.

1014.2.4.1 Area. Suites of rooms, other than patient sleeping rooms, shall not exceed 10,000 square feet (929 m²).

1014.2.4.2 Exit access. Any room or suite of rooms, other than patient sleeping rooms, of more than 2,500 square feet (232 m²) shall have at least two access doors remotely located from each other.

1014.2.4.3 One intervening room. For rooms other than patient sleeping rooms, suites of rooms are permitted to have one intervening room if the travel distance within the suite to the exit access door is not greater than 100 feet (30480mm).

1014.2.4.4 Two intervening rooms. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).

1014.2.5 Travel distance. The travel distance between any point in a Group I-2 occupancy room and an exit access door in that room shall not exceed 50 feet (15 240 mm).

Reason: This amendment serves to clarify the existing language to help designers and code enforcement personnel understand the current requirements.

The existing text covers two main concepts:

- Suites that contain patient sleeping areas; and,
- Suites that do not contain patient sleeping areas.

The requirements for each of these concepts are different, but they are not arranged consecutively. The proposed change clarifies the language by grouping the requirements for these two primary concepts into consecutive sections of code.

Exception 1, 2 and 3 moved. The benefit of allowing the use of suites is the ability to have intervening rooms. These two exceptions provide the only instances where intervening room is acceptable for patient sleeping areas. Therefore, they also define the only acceptable conditions for a sleeping suite. These exceptions are reworded and moved to the "sleeping suite" area (1014.2.3.x) of the proposed code.

Exception 4 and 5 moved. These exceptions deal with non sleeping suites and have been moved to the "non sleeping suite" area (1014.2.4.x) of the proposed code.

There are no intended changes to the actual requirements. This proposal is intended to rearrange and put logical breaks into a long and confusing section of code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal provides a logical order for the separation of different types of suites found in hospitals and will help clarify requirements for means of egress.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

John Williams, Washington State Department of Health – Construction Review Services, requests Approval as Modified by this public comment.

Modify proposal as follows:

1014.2.3 Suites in patient sleeping areas. Patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites with one intervening room if one of the following conditions is met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This modification clarifies that suites in patient sleeping areas are allowed only one intervening room between the patient sleeping areas and an exit access corridor. As written, the restriction to one intervening room is too vague and would cause confusion. This change is consistent with the federal requirements for Medicare certification.

Public Comment 2:

John Williams Washington State Department of Health – Construction Review Services, requests Approval as Modified by this public comment.

Modify proposal as follows:

1014.2.5 Travel distance. The travel distance between any point in a Group I-2 Occupancy patient sleeping room and an exit access door in that room shall not exceed 50 feet (15,240 mm).

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The slowest evacuation rate in an I-2 occupancy is in patient sleeping areas, due to the equipment and support functions that must be moved with the patient when they are evacuated. Other common accessory uses in a hospital; such as supply rooms, dining rooms, gyms; do not have this complication. This change is consistent with the federal requirements for Medicare certification.

Final Hearing Results

E105-06/07

AMPC1, 2

Code Change No: E106-06/07

Original Proposal

Sections: 1014.2.3 (New) [IFC [B] 1014.2.3 (New)]

Proponent: John Williams, Construction Review Services, Washington State Department of Health

Add new text as follows:

1014.2.3 Separation. Suites in Group I-2 occupancies shall be separated from other portions of the building by a smoke partition complying with Section 710.

Reason: The purpose of the proposed change is to clarify the walls that define an I-2 suite. Nowhere in the current code does it explain how the wall surrounding the suite should be constructed. The additional reference would help code officials determine how these suites should be designed.

The existing requirement listed in 1014 is that an I-2 occupant is able to travel directly from a room into a corridor or through a suite into a corridor. In either case, the occupant passes through a smoke partition (corridor wall) by entering the corridor. The occupancies are often designed with suites being placed directly adjacent to each other. The code also states that the sizes of suites should be limited. It appears that the intent of code is to create separate atmospheres of a certain size that are constructed limit the transfer of smoke.

Cost Impact: The code change proposal will not increase the cost of construction. Smoke partitions create an atmospheric separation only and do not require dampers in most cases.

Analysis: Requirements for smoke barriers in Group I-2 is located in Section 407.4.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal addresses a common question regarding separation of areas within hospitals. This is a good clarification.

Assembly Action:

None

Final Hearing Results

E106-06/07

AS

Code Change No: **E107-06/07**

Original Proposal

Sections: 1014.3 (IFC [B] 1014.3)

Proponent: Ron Nickson, National Multi Housing Council/National Apartment Association

Revise as follows:

1014.3 Common path of egress travel. In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2 and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies having fixed seating, see Section 1025.8.

Exceptions:

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: To increase the allowable common path of travel in R-2 occupancies from 75 feet to 125 feet when the R-2 occupancy is protected with a NFPA 13R sprinkler system. The design requirements and thus the protection provided with NFPA 13R system in the area being protected are the same as that provide with a NFPA 13 system. The 98% operational effectiveness of residential sprinkler systems is the best of all occupancy classifications.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal does not increase the overall travel distance, but increases the common path of travel only. The trade off is appropriate for a NFPA 13R system. The trade off will provide incentive for providing sprinkler systems and will provide adequate protection for the areas addressed in this change as far as the common path of travel. The proposals for E107 and E108 are the same.

Assembly Action:

None

Final Hearing Results

E107-06/07

AS

Code Change No: **E108-06/07**

Original Proposal

Sections: 1014.3 (IFC [B] 1014.3)

Proponent: Richard B. Alpert, P.E., Schirmer Engineering Corporation

Revise as follows:

1014.3 Common path of egress travel. In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In occupancies in Groups H-1, H-2, and H-3, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies having fixed seating, see Section 1025.8.

Exceptions:

1. The length of a common path of egress travel in an occupancy in Groups B, F and S shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in an occupancy in Groups B, S and U has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in occupancies in Group I-3 shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: The purpose of the code change is to revise the code to allow exception provision for sprinkler systems installed in accordance with NFPA 13R. Exception 4 to Section 1014.3, "Common path of egress travel" allows the extension of the common path of travel in R-2 occupancies from 75 feet to 125 feet for buildings protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 of the code. This allows the exception provision for sprinkler systems installed in accordance with NFPA 13. The code is overly restrictive in that it does not allow the exception provision for building protected throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.2 of the code which would allow the exception provision for sprinkler systems installed in accordance with NFPA 13R.

Substantiation: Exception 4 to Section 1014.3, "Common path of egress travel" allows the extension of the common path of travel in R-2 occupancies from 75 feet to 125 feet for buildings protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 of the code. R-2 occupancies are defined in the code as "residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature". NFPA 13R is the standard for the installation of sprinklers in residential occupancies up to and including four stories in height. As stated in the administrative section of the handbook to this standard "the Technical Committee on Residential Sprinkler Systems intends that NFPA 13R provides an acceptable level of fire protection with respect to life safety and property protection". Per the title and scope of NFPA 13R, R-2 occupancies greater than four stories would be required follow the requirements of NFPA 13 for the installation of automatic sprinkler systems.

The increase in the common path of egress is for the portion of egress travel within the dwelling unit, once outside of the dwelling unit and in the exit access corridor two paths of travel are available to the occupants as shown in Figure 1014.3 of the 2006 IBC Commentary. In addition to the protection provided by the automatic sprinkler systems the dwelling units of an R-2 occupancy are required to be separated from each other by a minimum of a 1-hour fire resistive construction per Section 708.1 of the IBC, and from the exit access corridor by a minimum of a ½ hour fire resistive construction per Section 1017.1 of the IBC.

As stated in the commentary for the 2006 IBC Section 1015.2.1, Exception 2, "The protection provided by an automatic sprinkler system installed in accordance with either NFPA 13 or NFPA 13R can reduce the threat of fire buildup so that the reduction in remoteness is not unreasonable, based on the presumption that it provides the occupants with an acceptable level of safety from fire". This same reasoning in the protection provided by an automatic sprinkler system is applicable to an increase in the common path of travel. This revision to allow the exception provision for automatic sprinkler systems installed in accordance with NFPA 13R would be consistent with the provisions of Exception 2 to Section 1015.2.1 of the code which allows the exception for the reduction of the required exit doors or exit access doorways separation distance "where a building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2".

Bibliography:

NFPA 13, "Standard for the Installation of Sprinkler Systems", 2002 Edition, National Fire Protection Association, Quincy, MA.
 NFPA 13R, "Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height", 2002 Edition, National Fire Protection Association, Quincy, MA.
 Automatic Sprinkler Systems Handbook, 2002, National Fire Protection Association, Quincy, MA

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal does not increase the overall travel distance, but increases the common path of travel only. The trade off is appropriate for a NFPA 13R system. The trade off will provide incentive for providing sprinkler systems and will provide adequate protection for the areas addressed in this change as far as the common path of travel. The proposals for E107 and E108 are the same.

Assembly Action:

None

Final Hearing Results

E108-06/07

AS

Code Change No: E110-06/07

Original Proposal

Sections: 1014.4 (IFC [B] 1014.4)

Proponent: Jay Hall, Virginia Department of Housing & Community Development, representing Virginia Building and Code Officials Association

Revise as follows:

1014.4 Aisles. Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas, ~~other than seating at tables~~, shall comply with Section 1025. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1025. The required width of aisles shall be unobstructed.

Reason: Aisle and aisle accessway are defined terms in the IBC and IFC. Section 1014.4.2.1 and 1014.4.2.2 provide requirements for aisle accessway widths only. Section 1014.4 requires the user to obtain width requirements on aisles serving seating at tables from this section. This section does not provide width requirements for aisles serving seating at tables. The proposed language sends the user to section 1025, specifically 1025.9.1 to obtain minimum aisle widths serving seating at tables.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal provides necessary direction for the different requirements for the width of aisles and aisle accessways.

Assembly Action:

None

Final Hearing Results

E110-06/07

AS

Code Change No: **E111-06/07**

Original Proposal

Sections: 1002.1, 1014.4 through 1014.5.2 (IFC [B] 1002.1, [B] 1014.4 through [B] 1014.5.2)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AISLE. An unenclosed exit access component that defines and provides a path of egress travel to a corridor or to an exit.

SECTION 1017
AISLES

1014.4 1017.1 Aisles General. Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas, other than seating at tables, shall comply with Section 1025. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1025.

The required width of aisles shall be unobstructed.

Exception: Doors, when fully opened, and handrails shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) from each side.

1014.4.4 1017.2 Aisles in Groups B and M. In Group B and M occupancies, the minimum clear aisle width shall be determined by Section 1005.1 for the occupant load served, but shall not be less than 36 inches (914 mm).

Exception: Nonpublic aisles serving less than 50 people and not required to be accessible by Chapter 11 need not exceed 28 inches (711 mm) in width.

1014.4.2 1017.3 Aisle accessways in Group M. An aisle accessway shall be provided on at least one side of each element within the merchandise pad. The minimum clear width for an aisle accessway not required to be accessible shall be 30 inches (762 mm). The required clear width of the aisle accessway shall be measured perpendicular to the elements and merchandise within the merchandise pad. The 30-inch (762 mm) minimum clear width shall be maintained to provide a path to an adjacent aisle or aisle accessway. The common path of travel shall not exceed 30 feet (9144 mm) from any point in the merchandise pad.

Exception: For areas serving not more than 50 occupants, the common path of travel shall not exceed 75 feet (22 880 mm).

1014.4.3 1017.4 Seating at tables. Where seating is located at a table or counter and is adjacent to an aisle or aisle accessway, the measurement of required clear width of the aisle or aisle accessway shall be made to a line 19 inches (483 mm) away from and parallel to the edge of the table or counter. The 19-inch (483 mm) distance shall be measured perpendicular to the side of the table or counter. In the case of other side boundaries for aisle or aisle accessways, the clear width shall be measured to walls, edges of seating and tread edges, except that handrail projections are permitted.

Exception: Where tables or counters are served by fixed seats, the width of the aisle accessway shall be measured from the back of the seat.

1014.4.3.1 1017.4.1 Aisle accessway for tables and seating. Aisle accessways serving arrangements of seating at tables or counters shall have sufficient clear width to conform to the capacity requirements of Section 1005.1 but shall not have less than the appropriate minimum clear width specified in Section 1014.4.3.2.

1014.4.3.2 1017.4.2 Table and seating accessway width. Aisle accessways shall provide a minimum of 12 inches (305 mm) of width plus 0.5 inch (12.7 mm) of width for each additional 1 foot (305 mm), or fraction thereof, beyond 12 feet (3658 mm) of aisle accessway length measured from the center of the seat farthest from an aisle.

Exception: Portions of an aisle accessway having a length not exceeding 6 feet (1829 mm) and used by a total of not more than four persons.

1014.4.3.3 1017.4.3 Table and seating aisle accessway length. The length of travel along the aisle accessway shall not exceed 30 feet (9144 mm) from any seat to the point where a person has a choice of two or more paths of egress travel to separate exits.

SECTION 1019 **EGRESS BALCONIES**

1014.5 1019.1 Egress balconies General. Balconies used for egress purposes shall conform to the same requirements as corridors for width, headroom, dead ends and projections.

1014.5.1 1019.2 Wall separation. Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required for corridors.

Exception: Separation is not required where the exterior egress balcony is served by at least two stairs and a dead-end travel condition does not require travel past an unprotected opening to reach a stair.

1014.5.2 1019.3 Openness. The long side of an egress balcony shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

Reason: A definition of aisle was introduced into the 2006 IBC. Unfortunately, a corridor, by definition, also meets the present definition of an aisle. The proposed modifications to the definition of aisle are based on the root definition of corridor as an exit access component. Inasmuch as there are only two interior exit access means of egress components and a corridor is defined as "an enclosed exit access component," an aisle must be an unenclosed exit access component. The definition of corridor also prescribes the extent of egress travel within that component. Similar language has been added to the definition of aisle. It is felt that more comprehensive definitions will assist code users in the proper design and analysis of means of egress systems.

Additionally, since aisles and exterior egress balconies are formal exit access components, it is felt that they should enjoy full section status similar to many other means of egress components. This will help users quickly and efficiently access necessary provisions. The reorganization of means of egress provisions in the 2003 IBC created several illogical locations for technical provisions. This provision will help correct that situation.

Approval of this proposal will clarify current code provisions and assist users in the proper determination of means of egress requirements. Approval of this proposal will greatly assist design professionals and code enforcement officials in the proper application of these fundamental and essential *International Building Code* provisions, especially those with minimal experience.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: If approved, the following editorial changes will occur. The proposed Section 1017, Aisles, would occur between current Section 1016, Exit Access Travel Distance, and Section 1017, Corridors. The proposed Section 1019, Egress Balconies, would occur between current Section 1017, Corridors, and Section 1018, Exits. Sections and references would be renumbered accordingly.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

AISLE. An unenclosed exit access component that defines and provides a path of egress travel ~~to a corridor or to an exit.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal will provide a more easily understood format for the requirements for aisles and egress balconies.

A modification was made to the definition for 'aisles' to delete the words "to a corridor or to and exit." Since an aisle could extend to an exit access door or intervening room the text would be too restrictive. In addition, requirements should not be in a definition.

Assembly Action:

None

Final Hearing Results

E111-06/07

AM

Code Change No: E113-06/07

Original Proposal

Sections: 1015.1, 1015.1.1, 1019.1, 1019.2 (IFC [B] 1015.1, [B] 1015.1.1, [B] 1019.1, [B] 1019.2)

Proponent: Philip Brazil, Reid Middleton, Inc., representing Washington Association of Building Officials (WABO)

Revise as follows:

1015.1 Exits or exit access doorways required from spaces. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds one of the values in Table 1015.1.
2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Sections 1015.3, 1015.4, ~~and~~ 1015.5, 1015.6 or 1015.6.1.

Exception: Group I-2 occupancies shall comply with Section 1014.2.2.

**TABLE 1015.1
SPACES WITH ONE MEANS OF EGRESS**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E ^a , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupant load 10.

1015.1.1 Three or more exits or exit access doorways. ~~Access to three or more~~ Three exits or exit access doorways shall be provided from a floor area where required by Section 1019.4 any space with an occupant load of 501-1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.

1019.1 Minimum number of Exits from stories. ~~All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits as required by specified in Table 1019.1 based on the occupant load of the story, except as modified in Section 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.~~

**TABLE 1019.1
MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD**

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS (per story)
1-500	2
501-1,000	3
More than 1,000	4

1019.2 Buildings with one exit. Only one exit shall be required in buildings as ~~described~~ specified below:

1. Buildings ~~described in meeting the limitations of~~ Table 1019.2, provided ~~that~~ the building has not more than one level below the first story above grade plane.
2. Buildings of Group R-3 occupancy.
3. Single-level buildings with ~~the occupied spaces at the level of exit discharge provided that the story or each space complies with Section 1015.1 as a space with one means of egress~~ exit or exit access doorway.

**TABLE 1019.2
BUILDINGS WITH ONE EXIT**

OCCUPANCY	MAXIMUM HEIGHT OF BUILDING ABOVE GRADE PLANE	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
A, B ^d , E ^e , F, M, U	1 Story	49 occupants and 75 feet travel distance
H-2, H-3	1 Story	3 occupants and 25 feet travel distance
H-4, H-5, I, R	1 Story	10 occupants and 75 feet travel distance
S ^a	1 Story	29 occupants and 100 feet travel distance
B ^b , F, M, S ^a	2 Stories	30 occupants and 75 feet travel distance
R-2	2 Stories ^c	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm.

- For the required number of exits for open parking structures, see Section 1019.1.1.
- For the required number of exits for air traffic control towers, see Section 412.1.
- Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1026 shall have a maximum height of three stories above grade plane.
- Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 with an occupancy in Group B shall have a maximum travel distance of 100 feet.
- Day care maximum occupant load 10.

Reason: This proposal addresses questions raised by code users in the state of Washington concerning the application of Sections 1015.1, 1015.1.1, 1019.1 and 1019.2 in determining the required number of exits and exit access doorways. Section 1015.1 intends to specify when two exits or exit access doorways are required from a space. Section 1015.1.1 intends to specify when three or more exits or exit access doorways are required from a space. Section 1019.1 intends to specify the minimum number of exits from a story based on the occupant load of that story. At least two exits are required as specified in Table 1019.1. Section 1019.2 effectively serves as an exception to Section 1019.1, permitting a building to have one exit if certain conditions are met.

The proposal will make the application of the proposals clearer. The phrase "one of" is added to Items 1 and 2 of Section 1015.1 clarifying that not all of the values in Table 1015.1 need to be exceeded before two exits or exit access doorways are required from a space. Sections 1015.6 and 1015.6.1 are added to Item 3 of Section 1015.1 because of the requirements in those sections for means of egress.

The reference to Section 1019.1 in Section 1015.1.1 is replaced with language requiring more than two exits or exit access doorways from a space based on its occupant load. Note that Section 1019.1 does not require three or more exits from floor areas. The reference to "floor area" in Section 1015.1.1 is replaced with references to spaces for consistency with Section 1015.1. Section 1015.1.1 applies to spaces, not stories, which is implied by the reference to floor areas.

Section 1019.1 is revised to require access from all spaces within each story to the minimum number of exits for each story as specified in Table 1019.1, which is based on the occupant load of each story. Reference to "rooms" is deleted because Section 1014.1 refers only to spaces. Its presence in Section 1019.1 is superfluous and the lack of its presence in Section 1015.1 is a potential conflict.

Reference to Table 1019.1 for the required number of exits from spaces has been the source of much confusion and is deleted. The required number of exits from spaces is specified more comprehensively in Sections 1015.1 and 1015.1.1, which require two or more exits or exit access doorways from spaces based on their occupant load and other factors. Note that Table 1019.1 does not require a minimum number of exits from spaces, but does require a minimum number from each story. The phrase "approved independent" in Section 1019.1 is superfluous and is deleted. The phrase "basement or individual space" is also deleted. A basement is a story that is partly or completely below grade plane making it superfluous. A story is composed of spaces making reference to them superfluous since stories include them.

Reference to Section 1015.1 in Section 1019.1 is superfluous and is deleted. Section 1019.1 requires at least two exits from each story. Section 1015.1 requires two exits from certain spaces but does not require exits from stories. Consequently, Section 1015.1 would never modify the requirements of Section 1019.1. Section 1015.1.1 intends to require three exits or exit access doorways from spaces with an occupant load of 501-1,000 and four exits or exit access doorways from spaces with an occupant load greater than 1,000. This is consistent with Table 1019.1, which specifies three exits from stories with an occupant load of 501-1,000 and four exits from stories with an occupant load greater than 1,000.

The proposed revisions to Section 1019.2 are largely editorial. The charging statement and Item #1 are revised to mandatory language. In Item #3, reference to the story is deleted and the phrase "means of egress" is replaced with "exit or exit access doorway" because compliance with Section 1015.1 is dependent on the number of exits or exit access doorways from spaces, not from stories, and requirements for the means of egress are not specified other than exits or exit access doorways from spaces.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Tables 1015.1, 1019.1 and 1019.2 are shown for information only.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1019.1 Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1019.1 based on the occupant load of the story, except as modified in Section 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story shall be maintained until arrival at grade or the public way.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal will address floors with smaller occupant loads than the level above or below, separating exits from spaces and exits from stories. The language will also clear up a reference circle.

The modification was to leave in the term 'approved independent' in Section 1019.1. This is important text to remain for the means of egress system.

Assembly Action:

None

Final Hearing Results

E113-06/07

AM

Code Change No: E115-06/07

Original Proposal

Sections: 1015.1, 1019.1 (IFC [B] 1015.1, [B] 1019.1)

Proponent: Maureen Traxler, City of Seattle, Washington, representing Washington Association of Building Officials

Revise as follows:

1015.1 Exit or exit access doorways required. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds the values in Table 1015.1.

Exception: In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 16 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

2. The common path of egress travel exceeds the limitations of Section 1014.3.
3. Where required by Sections 1015.3, 1015.4 and 1015.5.

Exception: Group I-2 occupancies shall comply with Section 1014.2.2.

1019.1 Minimum number of exits. All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on the occupant load of the story, except as modified in Section 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

Exception: In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 16 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

Reason: This proposal allows one exit in some dwelling units. This proposal is consistent with the IRC provisions allowing one exit from dwelling units, and is safer because dwellings built according to the IBC will have sprinkler protection. This reduction in exiting requirements is mitigated by the familiarity of the occupants with the exits, and their control over the environment. The code still requires two exits from every story outside the dwelling unit.

This provision is important for small dwelling units where there often is not enough space for two exits. It's also important for larger dwelling units in multifamily buildings in which it can be impracticable to provide the required separation between exits, particularly for buildings on urban infill lots with small footprints.

The occupant load of 16 was chosen for consistency with new provisions for Group R congregate living facilities. According to Section 310.1, congregate living facilities with 16 or fewer persons are Group R-3 occupancies, and those with more are Group R-2 occupancies.

The proposal is limited to dwelling units that are less than 3,200 square feet (Table 1004.1.1 specifies 200 sq.ft./person x 16 occupants = 3,200 sq.ft.) which corresponds with maximum allowable area for dwellings with one exit in one of the legacy codes. Other provisions of Chapter 10 may require additional exits to be provided – provisions limiting the length of the common path of egress travel and travel distance will apply. The limit of 125 feet on common path of egress travel found in Section 1014.3 is an especially strict limit.

There are cases where multifloor dwelling units with a small floor area and small occupant load are required to have access to two exits from the upper floors. In these cases, the common path of egress travel, which will be measured along stairways, will limit the size of a dwelling that can have one exit.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Modified****Modify the proposal as follows:**

1015.1 Exit or exit access doorways required. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds the values in Table 1015.1.

Exception: In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of ~~46~~ 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. The common path of egress travel exceeds the limitations of Section 1014.3.
3. Where required by Sections 1015.3, 1015.4 and 1015.5.

Exception: Group I-2 occupancies shall comply with Section 1014.2.2.

1019.1 Minimum number of exits. All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on the occupant load of the story, except as modified in Section 1015.1 or 1019.2. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

Exception: In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of ~~46~~ 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

Committee Reason: This proposal specifically addressed allowances for a single exit access door from an individual dwelling unit. This is a common problem resulting from dwelling units getting larger without an increase in actual occupant load.. A concern was expressed on how this propose would affect Group R-2 dormitories or congregate residences.

A modification was made to also allow a NFPA 13R systems, commonly used in Group R occupancies, for this allowance for one means of egress.

A second modification was made to increase the occupant load to 20 so that this provision would cover a dwelling unit up to 4,000 square feet in area. A concern was expressed about this number possibly leading to confusion with 16 occupants being used to determine congregate residences that could use Group R-3 requirements.

Assembly Action:**None**

Final Hearing Results

E115-06/07

AM

Code Change No: E122-06/07

Original Proposal

Sections: 1016.1, 1019.1, 1020.1 (IFC [B] 1016.1, [B] 1019.1, [B] 1020.1)

Proponent: Sarah A. Rice, CBO, Schirmer Engineering Corporation

Revise as follows:

1016.1 Travel distance limitations. Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story to the entrance to an exit along the natural and unobstructed path of egress travel, shall not exceed the distances given in Table 1016.1.

Where the path of exit access includes unenclosed stairways or ramps within the exit access ~~or includes unenclosed exit ramps or stairways as permitted in Section 1020.1~~, the distance of travel on such means of egress components shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open stairs.
2. In outdoor facilities with open exit access components and open exterior stairs or ramps, travel distance is permitted to be measured to the closest riser of a stair or the closest slope of the ramp.
3. ~~Where an exit stair is permitted to be unenclosed in accordance with Exception 8 or 9 of Section 1019.1, the travel distance shall be measured from the most remote point within a building to an exit discharge. In other than occupancy Groups H and I, the exit access travel distance to a maximum of 50 percent of the exits is permitted to be measured from the most remote point within a building to an exit discharge using unenclosed stairways or ramps when connecting a maximum of 2 stories. The two connected stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.~~
4. In other than occupancy Groups H and I, exit access travel distance is permitted to be measured from the most remote point within a building to an exit discharge using unenclosed stairways or ramps in the first and second stories in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

1019.1 Minimum number of exits. All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on the occupant load of the story, ~~except as modified in Section 1015.1 or 1019.2~~. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

Exceptions:

1. As modified by Section 1015.1.
2. As modified by Section 1019.2.
3. Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be provide the minimum number of approved independent exits required by Table 1019 on each story.

1020.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
 - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. ~~Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.~~
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.

- ~~8. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.~~
- ~~9. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.~~

Reason: There appears to be two distinct egress concepts that though integrally tied, are being confused. How exit access travel distance is measured (Section 1016.1) and when exits are required to be enclosed in fire rated constructions (Section 1020.1).

Section 1016.1 is intended to tell the code user how to measure "exit access travel distance", e.g., from the most remote point on a story to an "exit." Section 1020.1 tells the code user that all exits are to be enclosed in fire rated construction, and more importantly, the conditions when an exit is not required to be enclosed in fire rated construction. In multiple story buildings, that "exit" is typically an interior stairway or an exterior stairway, separated from the remainder of the story by fire rated construction.

Through past code change activity, the membership has accepted the concept that exit access travel distance does not always have to terminate at an "exit" which is located on that story, but under certain circumstances (those found in Exceptions 8 & 9 in Section 1020.1) can continue down a vertical egress element until the exit access travel distance is exceeded. At that point, regardless of where within the building the person is they must enter an "exit" that is enclosed in fire rated construction.

We do not disagree with the concept of allowing the exit access travel distance to continue past what has traditionally been the termination point, the top of a stairway. But we do feel that code, as currently written in Sections 1016.1 and 1020.1, does not accurately depict the concept. Rather than making the allowance for exit access travel distance to extend past the story in which it started in Section 1016.1, the code has made exceptions to when a vertical exit is required to be enclosed in Section 1020.1.

The proposed language here, and in Section 1020.1, seeks to clarify the application of this concept. The exceptions now found in Section 1020.1 are proposed for deletion and relocated into Section 1016.1. In addition, the current arrangement of the concept of measuring exit access travel distance has created confusion with regard to the application of other provisions within the code, e.g., enclosure of exit access corridors, levels of exit discharge, exit passageways.

Regarding the deletion of Exception 4: Section 1020 is only applicable to "vertical exit enclosures." One would not even look to Section 1020 for a stair that is not an "exit." Openings created by stairs that are not exits are not treated unlike any other opening in a floor assembly. They are classified as "openings" in horizontal assemblies and subject to the applicable provisions for such, potentially shaft enclosures or classification as an atrium. Retaining the text of Exception 4 is misleading as it seems to imply that stairs that are not exits are in some way regulated by the provisions of Section 1020 when this is untrue. The proposed deletion of Exception 4 removes any possible confusion.

The intent of the revision to Section 1019.1 is to address the concern over two exit access stairways being provided from a 2nd floor when two exits were required. This is basically a correlation issue.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

1016.1 Travel distance limitations. Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story to the entrance to an exit along the natural and unobstructed path of egress travel, shall not exceed the distances given in Table 1016.1.

Where the path of exit access includes unenclosed stairways or ramps within the exit access the distance of travel on such means of egress components shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open stairs.
2. In outdoor facilities with open exit access components and open exterior stairs or ramps, travel distance is permitted to be measured to the closest riser of a stair or the closest slope of the ramp.
3. In other than occupancy Groups H and I, the exit access travel distance to a maximum of 50 percent of the exits is permitted to be measured from the most remote point within a building to an exit discharge using unenclosed stairways or ramps when connecting a maximum of 2 stories. The two connected stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.
4. In other than occupancy Groups H and I, exit access travel distance is permitted to be measured from the most remote point within a building to an exit discharge using unenclosed stairways or ramps in the first and second stories in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal moves exit access requirements out of the current exit requirements in Section 1020.1 and into the correct location, Section 1016.1. This clarifies the limits for the open stairways that are part of the means of egress and their use in the building. The modification deleted the term 'discharge' from Section 1016.1 in Exceptions 3 and 4. Travel down the open exit access stairways could lead to an enclosed exit stairway, and not always directly to the door to the outside (i.e. exit discharge).

Assembly Action:

None

Final Hearing Results

E122-06/07

AM

Code Change No: **E130-06/07**

Original Proposal

Sections: 1017.3 (IFC [B] 1017.3)

Proponent: William E. Koffel, P.E., Koffel Associates, Inc.

Revise as follows:

1017.3 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

Exceptions:

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.4), the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, ~~and E, F, I-1, M, R-1, R-2, R-4, S, and U,~~ where the building is equipped throughout with an automatic sprinkler system in accordance with 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

Reason: The allowance of 50 foot dead-end corridors in fully sprinkler protected buildings is consistent with other national codes, including the 2006 Edition of NFPA 101 Table A.7.6, the 2006 Edition of NFPA 5000, the 2006 Edition of the International Existing Building Code (2006 IEBC), and the 2006 Edition of the International Fire Code (IFC). In other than Group A and H occupancies, the 2006 IEBC permits newly created dead-end corridors of 50 feet on floors protected with an automatic sprinkler system in accordance with the 2006 International Building Code (IBC) for Alterations – Level 2 (605.6 exc. 4) and Alterations – Level 3 (705.1). In addition, Section 812.4.1.1 (Means of egress for change in occupancy to higher hazard) of the 2006 IEBC references Section 605.6 for existing dead-end corridors. Further, when the change of occupancy complies with Section 812.3 of the 2006 IEBC, Section 812.4.1.2 (Means of egress for change of use to equal or lower hazard category) of the 2006 IEBC allows existing dead-end corridors no matter what length to remain regardless of the presence of an automatic sprinkler system. Section 1027.17.2 of the 2006 IFC permits dead-end corridors of 50 feet in buildings with an automatic sprinkler system in accordance with the 2006 IFC.

Once a new building is given its Use & Occupancy approval, any future work in the building can reference the 2006 IEBC and 2006 IFC requirements. The lack of conformity between the 2006 IBC and the 2006 IEBC and the 2006 IFC creates a conflict when future Alteration level work occurs. Amending Section 1017.3 of the 2006 IBC to allow 50 foot dead-end corridors in buildings containing the proposed occupancies, where the building is protected throughout with an automatic sprinkler system in accordance with NFPA 13 requirements allows for consensus between the two ICC building codes and the 2006 IFC. A similar code change is necessary for the Section 1017.3 (new dead-end corridors) of the 2006 IFC to address the allowable dead-end corridor distance of the 2006 IEBC and Section 1027.17.2 of the 2006 IFC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that a 50 foot dead end corridor would allow for safe egress and increase design options. It was noted that a NFPA 13 system was required for this increase even for Group R occupancies.

Assembly Action:

None

Final Hearing Results

E130-06/07

AS

Code Change No: **E134-06/07**

Original Proposal

Sections: 1019.1.2 (IFC [B] 1019.1.2)

Proponent: Robert Bagnetto, Lapeyre Stair, Inc./Laitram Corp.

Revise as follows:

1019.1.2 Helistops. The means of egress from helistops shall comply with the provisions of this chapter, provided that landing areas located on buildings or structures shall have two or more exits. For landing platforms or roof areas less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m2) in area, the second means of egress is permitted to be a fire escape, alternating tread device, or ladder leading to the floor below.

Reason: The purpose of this proposed code change to IBC-2006 is to allow the use of alternating tread devices as a means of egress from Helistops.

IBC-2006 Section 1019.1.2 is overly restrictive in that it does not allow the use of alternating tread devices as a means of egress from Helistops. IBC-2003 allows the use of alternating tread devices in sections, including but not limited to, 1009.11, 1015.3, 1015.4, and 1015.6.1. Alternating tread devices are typically safer to use than ladders and would be suitable for the application specified in section 1019.1.2. This proposal is superior to the current code in that it allows an additional adequate means of egress from Helistops that is not allowed under the current code.

Cost Impact: The change could result in a minor increase in construction costs if alternating tread devices are used in lieu of ladders as the second means of egress to Helistops.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The alternating tread device provides the same level of safety as a ladder, which is already permitted by the code as a second exit from helistops.

Assembly Action:

None

Final Hearing Results

E134-06/07

AS

Code Change No: **E136-06/07**

Original Proposal

Sections: 1019.2, Table 1019.2, 1019.3 (New) [IFC [B] 1019.2, [B] Table 1019.2, [B] 1019.3 (New)]

Proponent: Lori Lee Graham, City of Portland, Oregon

1. Revise as follows:

1019.2 Buildings Stories with one exit. Only one exit shall be required in buildings from stories as described below:

1. ~~Buildings Stories~~ described in Table 1019.2, ~~provided that the building has not more than one level below the first story above grade plane.~~

2. Buildings of Group R-3 occupancy.
3. Single-level buildings with the occupied space at the level of exit discharge provided that the story or space complies with Section 1015.1 as a space with one means of egress.

2. Delete table and substitute as follows:

**TABLE 1019.2
BUILDINGS WITH ONE EXIT**

OCCUPANCY	MAXIMUM HEIGHT OF BUILDING ABOVE GRADE PLANE	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
A, B ^d , E ^e , F, M, U	1 Story	49 occupants and 75 feet travel distance
H-2, H-3	1 Story	3 occupants and 25 feet travel distance
H-4, H-5, I, R	1 Story	10 occupants and 75 feet travel distance
S ^a	1 Story	29 occupants and 100 feet travel distance
B ^b , F, M S ^a	2 Stories	30 occupants and 75 feet travel distance
R-2	2 Stories	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm.

- a. For the required number of exits for parking structures, see Section 1019.1.1.
- b. For the required number of exits for air traffic control towers, see Section 412.1.
- c. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1026 shall have a maximum height of three stories above grade plane.
- d. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 with an occupancy in Group B shall have a maximum travel distance of 100 feet.
- e. Day care maximum occupant load is 10.

**TABLE 1019.2
STORIES WITH ONE EXIT**

STORY ABOVE GRADE PLANE	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE TO EXIT
First story or basement	A, B ^d , E ^e , F ^d , M, U, S ^d	49 occupants and 75 feet travel distance
	H-2, H-3	3 occupants and 25 feet travel distance
	H-4, H-5, I, R	10 occupants and 75 feet travel distance
	S ^a	29 occupants and 100 feet travel distance
Second story	B ^b , F, M, S ^a	29 occupants and 75 feet travel distance
	R-2	4 dwelling units and 50 feet travel distance
Third Story	R-2 ^c	4 dwelling units and 50 feet travel distance

- a. For the required number of exits for parking structures, see Section 1019.1.1.
- b. For the required number of exits for air traffic control towers, see Section 412.1.
- c. Emergency escape and rescue openings as provided in accordance with Section 1026.
- d. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- e. Day care occupancies shall have a maximum occupant load of 10.

1019.3 Egress from multi-story dwelling units. Only one exit is required from individual multi-story dwelling units located in buildings of any height provided the dwelling unit meets all of the following requirements:

1. The individual dwelling unit occupies not more than three stories; and
2. The exit from the dwelling unit is located at the level of exit discharge or is located to provide immediate access to not less than two approved independent exits from the story; and
3. The dwelling unit complies with Section 1015.1 as a space with one means of egress.

Reason: The purpose of the proposed code change is to provide clarity to egress review in conditions where only one exit is provided. The reasons are as follows:

- Confusion Regarding Application of Table: Table 1019.2 has caused great confusion amongst the plans examiners and the public. Frequently a building has multiple exits on the Ground Level and people have assumed that the table does not apply in these conditions. Yet, oftentimes, the exits are not available to all spaces or tenants.
- Mixed Occupancies: Table 1019.2 does not address mixed occupancies and yet planning codes are encouraging mixed occupancies. It is common to have residential use over commercial space but frequently the access and egress systems are completely independent of each other.
- Multiple Tenants: This code section fails to address the separations that occur in buildings due to multiple tenant spaces. Tenant configurations have become less standardized. Tenants frequently want to control access and egress from their space.
- Discrepancy in Application: The current table treats the first story of a two story building differently than a one-story building. This makes no sense. It would be preferable to review each level separately. For instance, under the current table, a one story mercantile building may have 50 occupants and 75 feet travel distance but the first story of a two story mercantile building may only have 30 occupants.

Examples:

- A two-story office building has separate tenant spaces on each story. There is a lobby shared by both tenants with a stair serving the 2nd floor tenant. There is a 2nd door, leading from the ground level tenant space to the parking lot. The 2nd floor does not have a 2nd exit access.
- A two story office building with a demising wall separating the building into two, two-story spaces. Each tenant has its own entrance and stair. There is no shared exit way.
- Three story, mixed use building with Retail on the first floor, offices on the 2nd floor and apartments on the 3rd floor. The offices and apartments share one exit stair. The Retail tenants have individual exits.

Substantiation: The proposed table evaluates the egress system based on the specific story in question and the occupancy of that story. This provides more flexibility in evaluating egress systems when there are mixed occupancies or multiple tenants. It also reduces the confusion that the present table has created.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The proponent has a similar proposal that matches the last new section proposed, Section 1019.3. If approved, the committee should be aware of the different location for the proposed text.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

**TABLE 1019.2
STORIES WITH ONE EXIT**

(No change to content of table)

- a. For the required number of exits for parking structures, see Section 1019.1.1.
- b. For the required number of exits for air traffic control towers, see Section 412.1.
- c. ~~Emergency escape and rescue openings as provided in accordance with Section 1026. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1026.~~
- d. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- e. Day care occupancies shall have a maximum occupant load of 10.

1019.3 Egress from multi-story dwelling units. Only one exit is required from individual multi-story dwelling units located in buildings of any height provided the dwelling unit meets all of the following requirements:

1. ~~The individual dwelling unit occupies not more than three stories; and~~
2. ~~The exit from the dwelling unit is located at the level of exit discharge or is located to provide immediate access to not less than two approved independent exits from the story; and~~
3. ~~The dwelling unit complies with Section 1015.1 as a space with one means of egress.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal clarifies the intent of the code. The charging statement in 1019.1 states that every story has two exits. The proposal carries on with that and references stories again versus the entire building. The proposal will allow for small 2nd floors or basements that meet the travel distance over a much larger 1st floor to have single exits. Note c from the original text will be maintained. It is necessary to provide information that for a single exit to be permitted, both a sprinkler system and emergency escape window are necessary for adequate safety. A modification was offered by the proponent for the deletion of proposed section 1019.3 since it was already addressed by committee action on E115-06/07 and E135-06/07.

Assembly Action:

None

Final Hearing Results

E136-06/07

AM

Code Change No: **E138-06/07**

Original Proposal

Sections: 1020.1 (IFC [B] 1020.1)

Proponent: Jason T. Thompson, National Concrete Masonry Alliance (NCMA), representing Masonry Alliance for Codes and Standards (MACS)

Revise as follows:

1020.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group Hand I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
 - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
8. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.
9. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

Reason: The purpose of this code change is for vertical exit enclosures to have their minimum required fire-resistance rating determined in the same manner as required for shaft enclosures in Section 707.4. The added text is taken from the last sentence of that section. Since a vertical exit enclosure is basically the same as a shaft enclosure in regard to the protection of vertical openings penetrating multiple floors, the minimum fire-resistance rating requirements should be the same.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The proposal will promote consistency between the floor rating requirements and the vertical enclosure ratings. A concern was expressed regarding the lack of substantiation for this change.

Assembly Action:**None**

Final Hearing Results

E138-06/07

AS

Code Change No: E139-06/07

Original Proposal

Sections: 1011.3, 1020.1.6 (IFC [B] 1011.3, [B] 1020.1.6), 1110.3**Proponent:** Bill Conner, Conner Associates LLC, representing himself**Revise as follows:**

1011.3 Tactile exit signs. A tactile sign stating EXIT and complying with ICC A117.1 Section 703.3 shall be provided adjacent to each door to an ~~egress exit~~ stairway, an exit ramp, an exit passageway and the exit discharge.

1020.1.6 ~~Stairway~~ Floor number signs. A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the ~~stair exit~~ enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the ~~stairway enclosure~~ for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1, Section 703.3 shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

1110.3 Other signs. Signage indicating special accessibility provisions shall be provided as shown:

1. Each assembly area required to comply with Section 1108.2.6 shall provide a sign notifying patrons of the availability of assistive listening systems.

Exception: Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.

2. At each door to an egress stairway, exit passageway and exit discharge, signage shall be provided in accordance with Section 1011.3.
3. At areas of refuge, signage shall be provided in accordance with Sections 1007.6.3 through 1007.6.5.
4. At areas for assisted rescue, signage shall be provided in accordance with Section 1007.8.3.
5. Within exit enclosures signage shall be provided in accordance with Section 1020.1.6.

Reason: Tactile signs should also be required at exit ramps, similar to exit stairways. Exit signage is not required at all stairways, just exit stairways. The change will also coordinate with ADAAG 216.4.1 and ICC A117.1 504.9.

Persons with visual impairments need to know what floor level they are on both for general use and emergency situations. This is coordination with ICC A117.1 504.9. The proposal to Section 1110.3 is coordination only.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the reason was given as coordination with ICC A117.1 and floor number signs are not required by ICC A117.1. The IBC should not reference specific sections of the ICC A117.1 standard.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Bill Conner, representing himself, requests Approval as Modified by this public comment.

Modify proposal as follows:

1011.3 Tactile exit signs. A tactile sign stating EXIT and complying with ICC A117.1 ~~Section 703.3~~ shall be provided adjacent to each door to an exit stairway, an exit ramp, an exit passageway and the exit discharge.

1020.1.6 Floor number signs. A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1, ~~Section 703.3~~ shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

1110.3 Other signs. Signage indicating special accessibility provisions shall be provided as shown:

1. Each assembly area required to comply with Section 1108.2.6 shall provide a sign notifying patrons of the availability of assistive listening systems.

Exception: Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.

2. At each door to an egress stairway, exit passageway and exit discharge, signage shall be provided in accordance with Section 1011.3.
3. At areas of refuge, signage shall be provided in accordance with Sections 1007.6.3 through 1007.6.5.
4. At areas for assisted rescue, signage shall be provided in accordance with Section 1007.8.3.
5. Within exit enclosures signage shall be provided in accordance with Section 1020.1.6.

Commenter's Reason: The reference to Section 703.3 in ICC A117.1 was intended to provide specific direction to appropriate requirements for the signage rather than a general reference, but based on the committee comments, it has been removed from the proposal.

The committee was incorrect in its assumption that floor level identification is not found in A117.1. See ICC A117.1-2003, Section 504.9. It is proposed to add this important safety information into the building code. This is not just an accessibility issue.

Final Hearing Results

E139-06/07

AMPC1

Code Change No: E140-06/07

Original Proposal

Sections: 1020.1.6, 1020.1.6.1 (New) [IFC [B] 1020.1.6, [B] 1020.1.6.1 (New)]

Proponent: Dave Fable, U.S. General Services Administration

Revise as follows:

1020.1.6 Stairway ~~identification~~ floor number signs. A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the stair enclosure and the identification of the stair. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the stairway for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions.

1020.1.6.1 Signage requirements. Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the stair enclosure shall be a minimum of 1-1/2 inches (38 mm) in height.
3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch in height (22 mm).
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background, or dark characters on a light background.

Reason: The only intent of this code change proposal is to revise the title of this section to a title that more accurately reflects the content of the Section. In addition, the proposed signage requirements will provide some sort of consistency for stairway identification signs across the U.S. The signage requirements are based on current GSA requirements as well current signage requirement in the NFPA 101, *Life Safety Code*.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal adds necessary clarification and standardization to the code regarding stairway floor signage requirements.

Assembly Action:

None

Final Hearing Results

E140-06/07

AS

Code Change No: **E146-06/07**

Original Proposal

Sections: 1022.4 (New) [IFC [B] 1022.4 (New)

Proponent: Dennis Richardson, City of San Jose, CA Building Division, representing Tri-Chapter Code Committee (Peninsula, East Bay and Monterey Chapters of ICC)

Add new text as follows:

1022.4 Ducts and air transfer openings. Ducts and air transfer openings through fire walls or fire barriers, forming a horizontal exit, shall be designed and protected in accordance with Section 716 in order to afford safety from both fire and smoke in the refuge area. All ducts and air transfer openings shall be protected by listed combination fire/smoke dampers.

Reason: The purpose of the code change is to provide code language that implements the intent of Section 1002.1, definition of Horizontal Exit. Horizontal exits are intended to afford safety from both fire **and smoke**.

No code provisions specifically require duct and air transfer openings in horizontal exit walls to be designed and protected in order to afford safety from both fire and smoke in the refuge area.

Section 1022.2 Separation, refers to sections 705 and 706 which refer to 716.5.1 and 716.5.2 There are no provisions in 716.5.1 Fire walls, and 716.5.2 Fire barriers, requiring ducts and air transfer openings in horizontal exit walls to be protected by anything other than fire dampers.

Cost Impact: The code change proposal will not increase the cost of construction as the definition of Horizontal Exit is very clear. It is currently the intent of the code to provide protection from smoke in addition to fire for horizontal exits. It appears the lack of such implementing code language is an oversight in the current code.

Analysis: If approved, would this section conflict with duct and transfer opening requirements for fire walls Section 705.10 or fire barrier in Section 706.10?

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proponent has identified a missing item in the code that needs be addressed, however, the reference to Section 716 jumps over limitations in fire walls and fire barriers. This language would better located in Chapter 7.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Dennis Richardson, City of San Jose, Building Division, representing Tri-Chapter Code Committee (Peninsula, East Bay, and Monterey Bay Chapters of ICC) requests Approval as Modified by this public comment.

Replace proposal with the following:

716.5.1.1 Horizontal exits. A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a fire wall or fire barrier that serves as a horizontal exit.

716.5.2.1 Horizontal exits. A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a fire wall or fire barrier that serves as a horizontal exit.

1022.2 Separation. The separation between buildings or refuge areas connected by a horizontal exit shall be provided by a fire wall complying with Section 705 or a fire barrier complying with Section 706 and having a fire-resistance rating of not less than 2 hours. Opening protectives in horizontal exit walls shall also comply with Section 715. Duct and air transfer openings in a fire wall or fire barrier that serves as a horizontal exit shall also comply with Section 716. The horizontal exit separation shall extend vertically through all levels of the building unless floor assemblies have a fire-resistance rating of not less than 2 hours with no unprotected openings.

Commenter's Reason: The committee acknowledged smoke dampers are missing for fire walls and fire barriers serving as horizontal exit walls in the present code language. This public comment addresses the concern raised by the committee that the original language in E146 creating a new section to address this issue jumped over references to Sections 705 and 706 found in Section 1022.2 of the present code language. By adding the reference to Section 716 in a similar manner as the reference to Section 715 found in

Section 1022.2, the public comment language preserves the integrity of the references to Sections 705 and 706 found in Section 1022.2. Sections 716.5.1.1 and 716.5.2.1 are added in Chapter 7 to clarify smoke dampers are required in addition to fire dampers for fire walls and fire barriers serving as a horizontal exit wall but not in other fire walls and fire barriers.

Final Hearing Results

E146-06/07

AMPC1

Code Change No: E147-06/07

Original Proposal

Sections: 1023.2 (IFC [B] 1023.2)

Proponent: Tim Pate, City and County of Broomfield, Colorado Building Department, representing Colorado Chapter ICC

Revise as follows:

1023.2 Use in a means of egress. Exterior exit ~~ramps and~~ stairways shall not be used as an element of a required means of egress for Group I-2 occupancies. For occupancies in other than Group I-2, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Reason: This proposal will delete the requirement that does not allow an exterior exit ramp to be used as a part of the means of egress (exit discharge) for an I-2 occupancy. The code would allow an exit ramp to be used within the building to access the exit so it does not make sense to not allow the same type of exit ramp to be used at the exterior discharge. The ramp would be constructed with the proper maximum slope, handrails, edge protection, etc. so that it would be just as safe on the exterior as it is on interior. The code also regulates outdoor conditions as per Section 1010.7.2 which would make sure water would not accumulate on the walking surface.

The change that put this in – E60/02, was adding 'ramps and' to multiple sections that addressed 'stairways'. The reason states "This proposal is to recognize that exterior exit elements can also include ramps. The same protection criteria applied to stairways is also applicable to ramps when used as part of the exit system." It appears this change, especially when a high percentage of the people could be in wheelchairs or even in beds, inadvertently resulted in a prohibition for exterior ramps for Group I-2 occupancies.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: While the committee agreed that ramps should be permitted as part of the means of egress from Group I-2 facilities at some level, with the current deletion, the second sentence of the section would then allow a Group I-2 to have an exit ramp of any height.

Assembly Action:

None

Final Hearing Results

E147-06/07

AS

Code Change No: **E150-06/07**

Original Proposal

Sections: 1024.1 (IFC [B] 1024.1)

Proponent: Jason T. Thompson, National Concrete Masonry Alliance (NCMA), representing Masonry Alliance for Codes and Standards (MACS)

Revise as follows:

1024.1 General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
 - 1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
 - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Reason: This proposed code change corrects an oversight in the International Building Code (IBC). A horizontal exit complying with Section 1022 is a unique type of exit that is located generally within the middle of a story. It subdivides the story into separate areas by 2-hour fire-resistive wall construction to create refuge areas on either side of the horizontal exit wall. The code allows the doors in the horizontal exit to serve as one of the required exits provided there is at least one exit stairway or exterior exit door on each side of the horizontal exit. This allows for the occupants to eventually discharge to the exterior of the building without having to pass through another horizontal exit. Obviously, horizontal exits cannot discharge directly to the exterior of the building by virtue of their design. Yet they are recognized as acceptable exits by the code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal clarifies that horizontal exits can exit into another building rather than directly to the exterior.

Assembly Action:

None

Final Hearing Results

E150-06/07

AS

Code Change No: E152-06/07

Original Proposal

Sections: 1025.1, 1025.2, 1025.3, 1025.9, 1010.2, 1012.5, 1014.3 (IFC [B]1025.1, [B]1025.2, [B]1025.3, [B]1025.9, [B]1010.2, [B]1012.5, [B]1014.3)

Proponent: Arlan Smith, Idaho Division of Building Safety, representing Idaho Association of Building Officials

Revise as follows:

1025.1 General. Occupancies in Group A and assembly occupancies accessory to Group E which contain seats, tables, displays, equipment or other material shall comply with this section.

1025.2 Assembly main exit. Group A occupancies and assembly occupancies accessory to Group E occupancies that have an occupant load of greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. Where the building is classified as a Group A occupancy, the main exit shall front on at least one street or an unoccupied space of not less than 10 feet (3048 mm) in width that adjoins a street or public way.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width.

1025.3 Assembly other exits. In addition to having access to a main exit, each level in a Group A or assembly occupancies accessory to Group E occupancies ~~occupancy~~ having an occupant load greater than 300 shall be provided with additional means of egress that shall provide an egress capacity for at least one-half of the total occupant load served by that level and comply with Section 1015.2.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building, provided that the total width of egress is not less than 100 percent of the required width.

1025.9 Assembly aisles are required. Every occupied portion of any occupancy in Group A or assembly occupancies accessory to Group E that contains seats, tables, displays, similar fixtures or equipment shall be provided with aisles leading to exits or exit access doorways in accordance with this section. Aisle accessways for tables and seating shall comply with Section 1014.4.3.

1010.2 Slope. Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-percent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

Exception: Aisle ramp slope in occupancies of Group A or assembly occupancies accessory to Group E occupancies shall comply with Section 1025.11.

1012.5 Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight or ramp run. At stairways where handrails are not continuous between flights, the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom ramps.

Exceptions:

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.

1014.3 Common path of egress travel. In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2, and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies and assembly occupancies accessory to Group E occupancies having fixed seating, see Section 1025.8.

Exceptions:

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).
4. The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

Reason: Without this change we are left with no provisions to govern assembly seating as found in school auditoriums, cafeterias and gymnasiums. These areas are not Group A Occupancies because they are specifically Group E occupancies as per IBC Section 302.2.1 and 303.1.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal provides equivalent levels of egress safety for educational occupancies that may have assembly areas (e.g. cafeterias, libraries).

Assembly Action:

None

Final Hearing Results

E152-06/07

AS

Code Change No: E153-06/07

Original Proposal

Sections: 1025.4 (IFC [B] 1025.4)

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

1025.4 Foyers and lobbies. In Group A-1 occupancies, where persons are admitted to the building at times when seats are not available and are allowed to wait in a lobby or similar space, provided such use of lobby or similar space shall not encroach upon the required clear width of the means of egress. ~~Such waiting areas shall be separated from the required means of egress by substantial permanent partitions or by fixed rigid railings not less than 42 inches (1067 mm) high.~~ Such foyer, if not directly connected to a public street by all the main entrances or exits, shall have a straight and unobstructed corridor or path of travel to every such main entrance or exit.

Reason: To eliminate an unnecessary code requirement from the IBC.

This provision does not address egress but the use of the space. It does not belong in the code. The only time that the separation is needed is when there is no emergency in the theater. In practice, these railed separations are unnecessary. The means of egress from a lobby must take into consideration the queuing population, making this requirement redundant.

It is a misunderstanding, therefore, to consider persons in waiting areas as potential obstructions to egress. Whether queuing or seated, these persons are occupants, and must be accommodated by the means of egress. Unfortunately, this requirement is widely interpreted to require rails or partitions, even when (as the code requires) the waiting load is already accommodated by the means of egress.

In addition, these rails or partitions can themselves constitute obstructions to egress.

As an example, a theater has 1,000 seats, 50 employees and a queuing (waiting) load of 300. This results in a total occupant load of 1,350. Egress capacity from the entire occupancy must at least equal this occupant load. More importantly to this proposal, the egress capacity of the main exit from the lobby must accommodate ½ of this load (675). The queuing load is already included in this calculation, and the egress width required to serve the queuing population as well as the theater occupants leaving the seating areas would be required by the code to be accommodated by the main exit and other exits from the occupancy.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The language should not be deleted. A separation is required for waiting areas in order to keep them from creeping into the path for means of egress.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Gene Boecker, Code Consultants, Inc., requests Approval as Submitted.

Commenter's Reason: Several comments by the committee seem to indicate that the issue was not well understood. The issue raised by the committee does not validate the concern. Why is it necessary to keep the people in the waiting area from creeping into the path of egress? What is the threat or danger? There was no reason stated because there is none. All the occupants will need to egress in an emergency so the egress path will be "occupied" regardless.

The people in the waiting area and the people in the theater(s) are used to determine the total width of egress at the main entrance. It is not required to distribute the widths according to where they are located in the lobby. The entire set of doors is used for egress. If (for example) the doors are sized for 1500 people in the theater and 500 people in the waiting, the total width must be based upon 2000 occupants – regardless of where they are coming from. If a physical barrier is placed between the people waiting to egress (whether from the theaters or from the lobby) and the egress doors, people will be forced to either wait while their side egresses or climb over the barrier to reach the available egress doors. The entire main egress is designed for the 2000 occupants whether on one side or the other of the fixed barrier. If there were no barrier and people moved over to the path of egress from the theater, they would still be in queue waiting to leave. It takes the same amount of time to egress 2000 people whether some are "within the path of egress" or not. On the other hand, with the physical barrier in place, it is possible to cause some occupants to be delayed based on which side of the barrier they chose to egress. Given a choice, people typically pick the shortest line but if they are restricted in so doing by a fixed barrier, they cannot opt for the alternate route.

It makes no sense to restrict the occupants from access to egress elements. This provision has been in one of the legacy codes but not the others; nor in the Life Safety Code[®]. If there is evidence of a problem with the design that has no physical barriers then that should be presented as evidence of a need for the barriers. To date, no entity has presented such evidence. It is illogical to place a restriction on egress in this manner.

The provision appears to be solely based on circulation related concerns – allowing people to leave the theater while not interfering with those waiting for the next event. If that is the case, there are no provisions within the code to determine the width, nor does that fall into the realm of life safety. Hence, it has no place within the code – it is a convenience issue.

As noted above, the fixed barrier is actually less safe than allowing a free and open area from which to select an egress path. Without substantiating data showing that this is a viable concern – and with historical evidence showing that some legacy other codes (and other current codes) do not require the barrier this provision should be removed as a potential impediment to egress.

Final Hearing Results

E153-06/07

AS

Code Change No: **E155-06/07**

Original Proposal

Sections: 1025.5, 1025.5.1, 1020.1 (IFC [B] 1025.5, [B] 1025.5.1, [B] 1020.1)

Proponent: Tom Wandrie, ICC 300 Development Committee

Revise as follows:

1025.5 Interior balcony, and gallery and press box means of egress. For balconies, or galleries or press boxes having a seating capacity of 50 or more located in Group A occupancies, at least two means of egress shall be provided, with one from each side of every balcony, or gallery or press boxes and at least one leading directly to an exit.

1025.5.1 Enclosure of balcony openings. Interior stairways and other vertical openings shall be enclosed in an exit enclosure as provided in Section 1020.1, except that stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, and auditoriums and sports facilities. At least one accessible means of egress is required from a balcony, or gallery or press boxes level containing accessible seating locations in accordance with Section 1007.3 or 1007.4.

1020.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
 - 1.2. The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
8. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1025.5.1, are not required to be enclosed.
- ~~8.~~ 9. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.
- ~~9.~~10. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

Reason: The intent of this proposal is to clarify when press boxes can use a single means of egress. Open stairways are permitted between the press box and the main floor or ground similar to balconies. Changes to Section 1020.1 are for coordination only. If the committee decision is that press boxes do not need to be included, the exception for open exit stairways at balconies and galleries should still be referenced in Section 1020.1.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: While the committee agreed with the intent of the proposal, there can be a great diversity in what might be considered a press box. A definition for press boxes is needed in order to define where this special means of egress would be permitted. It should be clarified if the occupant load would be determined for each room in a press box or the whole level. Press boxes are addressed in IBC 903, 1025 and 1104.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Tom Wandrie, ICC 300 Development Committee, requests Approval as Submitted.

Commenter's Reason: The reason "Press Boxes" were included in our proposed revision was to be certain they would be regulated under the IBC and not the ICC 300 standard. A press box is simply a space which is very similar to a balcony or gallery (both of which are not defined in the IBC). The press box is typically partially or fully enclosed for sound proofing purposes. If fully enclosed, at least one side facing the playing area is glazed. Therefore a fire in the press box would be noticed, similar to a balcony, gallery, or mezzanine. IBC sections 903, 1025, and 1104 already identify press boxes as accessory use areas, and provide sprinkler thresholds and accessible route requirements. We believe it makes the most sense to include press boxes with balconies and galleries in the IBC sections identified in this change proposal. These changes would clearly identify that; a seating capacity of 50 or more requires at least two exits and when exit enclosures are required.

Final Hearing Results

E155-06/07

AS

Code Change No: E158-06/07

Original Proposal

Sections: 1025.10 (IFC [B] 1025.10)

Proponent: Ed Roether, HOK SVE

Add new text as follows:

1025.10 Clear width of aisle accessways serving seating. Where seating rows have 14 or fewer seats, the minimum clear aisle accessway width shall not be less than 12 inches (305 mm) measured as the clear horizontal distance from the back of the row ahead and the nearest projection of the row behind. Where chairs have automatic or self-rising seats, the measurement shall be made with seats in the raised position. Where any chair in the row does not have an automatic or self-rising seat, the measurements shall be made with the seat in the down position. For seats with folding tablet arms, row spacing shall be determined with the tablet arm ~~down~~ in the used position.

Exception: For seats with folding tablet arms, row spacing is permitted to be determined with the tablet arm in the stored position where the tablet arm when raised manually to vertical position in one motion automatically returns to the stored position by force of gravity.

Reason: The current language is not clear if the arm is in the used position or folded down on the side. Means of egress should be evaluated using the most conservative approach for aisle accessway width.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Seats with folding tablets are a common condition that occurs in many higher education lecture halls. The proposal provides specific criteria to maintain the aisle accessways where tablets are used.

Assembly Action:

None

Final Hearing Results

E158-06/07

AS

Code Change No: E160-06/07

Original Proposal

Sections: 1025.14.2 (IFC [B] 1025.14.2)

Proponent: Tom Wandrie, ICC 300 Development Committee

Revise as follows:

1025.14.2 Sightline-constrained guard heights. Unless subject to the requirements of Section 1025.14.3, a fascia or railing system in accordance with the guard requirements of Section 1013 and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating. At bleachers, a guard must be provided where the floor or footboard elevation is more than 24 inches (610 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of the immediately adjacent seating where required by ICC 300.

Reason: Code change E73-02 which added this language into the IBC was approved as a coordination item with ICC 300. This 24" drop off requirement is not in the ICC 300 Section 408.1 which deals with guards.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal will coordinate with the ICC 300 and should be addressed in that standard.

Assembly Action:

None

Final Hearing Results

E160-06/07

AS

**2007/2008
DOCUMENTATION**



Code Change No: **F2-07/08**

Original Proposal

Section: 101.2

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

101.2 Scope. This code establishes regulations affecting or relating to structures, processes, premises and safeguards regarding:

1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices;
2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises;
3. Fire hazards in the structure or on the premises from occupancy or operation;
4. Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems-;
5. Conditions affecting the safety of firefighters and emergency responders during emergency operations.

Reason: Section 101.3 "Intent" currently states that the intent of the code is to provide minimum requirements for firefighter safety during emergency operations. However, this intent of the code is not communicated in the current scope language found in Section 101.2. Inclusion of this language will clarify that the scope of the code does cover issues related to firefighter safety during emergency operations.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that considering the safety of firefighters and other emergency responders is appropriate for the scope of the code.

Assembly Action:

None

Final Hearing Results

F2-07/08

AS

Code Change No: **F3-07/08**

Original Proposal

Sections: 102.1, 202 (New)

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

1. Revise as follows:

102.1 Construction and design provisions. The construction and design provisions of this code shall apply to:

1. Structures, facilities and conditions arising after the adoption of this code.

Exception: The construction features within the building area of one-and two-family dwellings and townhomes, constructed in accordance with the *International Residential Code*, shall not be regulated by this code. This code shall regulate the site fire protection features outside of the building area of such buildings including, but not limited to, fire apparatus access roads in accordance with Section 503 and fire protection water supplies in accordance with Section 508.

2. Existing structures, facilities and conditions not legally in existence at the time of adoption of this code.
3. Existing structures, facilities and conditions when identified in specific sections of this code.
4. Existing structures, facilities and conditions which, in the opinion of the fire code official, constitute a distinct hazard to life or property.

2. Add new definition to read as shown:

**SECTION 202
GENERAL DEFINITIONS**

[B] AREA, BUILDING. The area within surrounding exterior walls (or exterior walls and fire walls) exclusive of vent shafts and courts. Areas of the building not provided with surrounding walls shall be included in the building areas if such areas are included within the horizontal projection of the roof or floor above.

Reason: This proposal clarifies the scope issues between the IFC and the IRC regarding the regulation of the building proper and the fire protection features that are required to serve the buildings. The committee interpretation on 903.2.7, issued 3/21/04, indicates that the IFC is not applicable to IRC buildings. One item this interpretation did not address was the issue of applicability of fire protection site issue requirements contained in the IFC to the placement of IRC structures. The unwritten understating, staff interpretation and practical application has been that the IFC does apply to areas outside of the IRC building footprint. Therefore, a local jurisdiction can utilize the IFC to regulate the Fire Apparatus Access Roads in Section 503 and Fire Protection Water Supplies in Section 508 servicing IRC buildings. However, none of these concepts of scope are explicitly addressed within the code document. This code change will clarify this area for the designer, code official and end user.

The definition of "Building Area" is from the IBC and is included as specific direction to the user that the scope of the IFC only extends outside of the "Building Area" for IRC structures.

It is important to note that this code proposal only codifies current ICC interpretations and user practice.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: While the maintenance of the technical content of the definition rests with the IBC-General Code Development Committee, the appropriateness of adding that text to Section 202 rests with the IFC Code Development Committee.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee felt that the intent needs to be more clearly expressed. The definition of Building Area does not include the exterior walls, which could cloud the issue. The committee observed that one- and two-family dwellings are not always used for residential purposes. The storage of hazardous materials in these buildings could be a problem if they are excluded from the applicability of the code. The committee expressed its opinion that the interpretation cited in the proponent's reason statement may be wrong and that the current text is preferred.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Michael E. Dell'Orfano, South Metro Fire Rescue, representing Fire Marshal's Association of Colorado, requests Approval as Modified by this public comment.

Replace proposal as follows:

102.5 Application of residential code. Where structures are designed and constructed in accordance with the *International Residential Code*, the provisions of this code shall apply as follows:

1. Construction and design provisions: Provisions of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access, and water supplies. Where interior or exterior systems or devices are installed, construction permits required by Section 105.7 of this code shall also apply.
2. Administrative, operational, and maintenance provisions: All such provisions of this code shall apply.

(Renumber subsequent sections)

Commenter's Reason: F3-07/08 was disapproved during the code development hearings in Palm Springs for the primary reasons of unclear/incomplete intent and due to disagreement on the applicability of the IFC to buildings constructed under the IRC. The purpose of this public comment is to address those two main concerns. First, the language in the original code change proposal is relocated and revised so that its intent is clearer and more complete (to address construction as well as operational issues). The newly proposed wording in this public comment intends to better communicate that the IRC tells a builder how to build a one- and two-family dwelling and townhome (including whether or not it has fire sprinklers), but the IFC tells the builder what kind of water supply, roads, addresses, etc. to provide for that home or subdivision. Also, if a fire protection system, LP-gas cylinder, large tent, fuel tank, etc. is installed in or around that home, then the IFC would be used to issue that permit as well. The wording recommended by this public comment also makes it clear that on-going enforcement authority, operational permits, and maintenance requirements of the IFC still apply to those homes or subdivisions, which is necessary for fire suppression & investigation, open burning enforcement, addressing illegal use of homes, etc.

The second issue this public comment attempts to address is applicability. Whether or not you agree with the ICC interpretation on the applicability of the IFC to IRC structures, it is still necessary to insert these provisions in order to show how the two codes are intended to interact (as is done in IFC Section 102.4 for the IBC) and to avoid conflicting provisions (like whether or not the house needs to be protected by sprinklers). And whether or not you agree with that ICC interpretation, the fact is that some jurisdictions have taken it literally and have prevented fire code officials from performing their duties. All of this appears to stem from a fear that the fire code official will use the IFC as a back-door way of getting sprinklers in all houses. This proposal addresses all of those concerns and lets home construction and on-going enforcement occur as it always has before the IRC was ever created.

Final Hearing Results

F3-07/08

AMPC

Code Change No: F7-07/08

Original Proposal

Sections: 104.9.1 (New), 104.9.2 (New)

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Add new text as follows:

104.9.1 Research reports. Supporting data, when necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.9.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the fire code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the fire code official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the fire code official for the period required for retention of public records.

Reason: This language is identical to the current "Research Reports" and "Tests" language in the IBC Sections 104.11.1 and 104.11.2 under alternative materials Section 104.11. These sections are proposed to be included in the IFC as they are important components of the underlying Section 104.9 "Alternative materials and methods." The fire code official needs to have the authority to require research reports and tests in order to determine if a proposed alternative materials and methods is supported by valid technical substantiation.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Committee Reason: The proposal was approved because the committee felt that it will provide needed correlation between the IFC and the IBC.

Assembly Action:

None

Final Hearing Results

F7-07/08

AS

Code Change No: F11-07/08

Original Proposal

Section: 105.2.3

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Revise as follows:

105.2.3 Time limitation of application. An application for a permit for any proposed work or operation shall be deemed to have been abandoned ~~six months~~ 180 days after the date of filing, unless such application has been diligently prosecuted or a permit shall have been issued; except that the fire code official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each ~~if there is reasonable cause. The extension shall be requested in writing and justifiable cause demonstrated.~~

Reason: This proposed change matches the language in Section 105.3.2 of the IBC which covers the same topic of "Time limitations of application." This will provide consistency between the two codes. In addition, extensions should be requested in writing to memorialize the request and action on the request.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide clarity and correlation between the IFC and the IBC on the subject of permit applications and extensions.

Assembly Action:

None

Final Hearing Results

F11-07/08

AS

Code Change No: F12-07/08

Original Proposal

Section: 105.3.2

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Revise as follows:

105.3.2 Extensions. A permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit when work is unable to be commenced within

the time required by this section for good and satisfactory reasons. The fire code official is authorized to grant, in writing, one or more extensions of the time period of a permit for periods of not more than ~~90~~ 180 days each. Such extensions shall be requested by the permit holder in writing and justifiable cause demonstrated.

Reason: This proposal modifies the maximum permit extension time from 90 to 180 days. This is consistent with Section 105.5 of the IBC which allows for a maximum 180 day extension. The extension dates between the IFC and IBC should be the same in order to provide consistency to the owner, developer, fire official and building official.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide internal consistency based on the action on code change F11-07/08 and correlation between the IFC and the IBC.

Assembly Action:

None

Final Hearing Results

F12-07/08

AS

Code Change No: F13-07/08

Original Proposal

Section: 105.3.3

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Revise as follows:

105.3.3 Occupancy prohibited before approval. The building or structure shall not be occupied prior to the fire code official issuing a permit ~~that indicates that~~ and conducting associated inspections indicating the applicable provisions of this code have been met.

Reason: A straight reading of the current language in Section 105.3.3, appears to only require the issuance of a permit prior to the occupancy of a building or structure. The current language also infers that the issuance of a permit is the mechanism to ensure that the applicable provisions of the code have been met. This is clearly not the case. Approval of inspections associated with the permit is the method to ensure the permitting conditions have actually been met in the field application and the requirement that the "applicable provisions of this code have been met." The proposed code change would ensure that inspection associated with permit occur prior to occupancy of a building or structure.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change.

Assembly Action:

None

Final Hearing Results

F13-07/08

AS

Code Change No: F14-07/08

Original Proposal

Section: 105.3.8 (New)

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Add new text as follows:

105.3.8 Validity of permit. The issuance or granting of a permits shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinances of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents, operational documents and other data shall not prevent the fire code official from requiring correction of errors in the documents or other data.

Reason: This proposed language is identical to the language in Section 105.4 of the IBC with the exceptions that the title of the official has changes, operational permits are included and the last sentence of Section 105.4 was not carried over as it is more germane to the role of the building official. The need for covering the "validity of permit" topic in the IFC is similar to the need for this language in the IBC. The fire code official needs to be able to rely on the information provided in the permit and the permit is not authorization to violate the code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide needed correlation between the IFC and the IBC.

Assembly Action:

None

Final Hearing Results

F14-07/08

AS

Code Change No: F15-07/08

Original Proposal

Section: 105.4.1

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Revise as follows:

105.4.1 Submittals. Construction documents and other data shall be submitted in ~~one~~ two or more sets with each application for a permit and in such form and detail as required by the fire code official. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

Exception: The fire code official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

Reason: Consistency and coordination among the I-Codes are cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established, for the 2006/2007 cycle, and extended, for the 2007/2008 cycle, the ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in the International Codes family and improve the correlation among the I-Codes through the code development process.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes. The intent of this correlation effort is not necessarily to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes.

This proposal focuses on construction document submittal and is being submitted by the AHC-Admin to provide improved correlation of the IFC with Section 106.1 of the *International Building Code*, *International Existing Building Code* and *International Wildland-Urban Interface Code*, Section R106.1 of the *International Residential Code*, and Section 106.3.1 of the *International Fuel Gas Code*, *International Mechanical Code*, *International Plumbing Code*.

Changing the number of sets of documents to be submitted from one to two will provide correlation with Section 105.4.6. The added exception provides the fire code official with flexibility in determining the need for detailed documents when the services of a registered design professional are not required.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

105.4.1 Submittals. Construction documents and ~~other supporting~~ data shall be submitted in two or more sets with each application for a permit and in such form and detail as required by the fire code official. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

Exception: The fire code official is authorized to waive the submission of construction documents and ~~other supporting~~ data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

Committee Reason: The proposal was approved because the committee felt that it will provide improved correlation of the IFC with the IBC, IEBC, IRC, IWUIC, IFGC, IMC and IPC. Internal correlation with the number of document sets required by Section 105.4.6 will also be achieved. The modification removes the ambiguous phrase "other data" and focuses on the specific type of data required.

Assembly Action:

None

Final Hearing Results

F15-07/08

AM

Code Change No: **F17-07/08**

Original Proposal

Section: 105.4.1.1 (New)

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Add new text as follows:

105.4.1.1 Examination of documents. The fire code official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

Reason: Consistency and coordination among the I-Codes are cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established, for the 2006/2007 cycle, and extended, for the 2007/2008 cycle, the ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in the International Codes family and improve the correlation among the I-Codes through the code development process.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes. The intent of this correlation effort is not necessarily to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes.

This proposal focuses on the review of construction documents as part of the permit process and is being submitted by the AHC-Admin to correlate the IFC with current Section 106.3 of the *International Building Code* and *International Existing Building Code*, Section R106.3 of the *International Residential Code* and the code changes that were approved in the 2006/2007 cycle creating new Section 106.9 of the *International Wildland-Urban Interface Code* and new Section 104.3 of the *International Energy Conservation Code* (see *Supplement to the International Codes/2007*).

This proposed section provides for examination of the construction documents by the fire code official or someone assigned by the fire code official to determine code compliance prior to issuance of a permit.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

105.4.1.1 Examination of documents. The fire code official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the work indicated and described is in accordance with the requirements of this code ~~and other pertinent laws or ordinances.~~

Committee Reason: The proposal was disapproved because the committee felt that it will provide improved correlation of the IFC with the IBC, IEBC, IRC, IWUIC and IECC. The modification removes language that is more appropriate for the IBC because the fire code official could not know all "...other pertinent laws or ordinances." that might apply.

Assembly Action:

None

Final Hearing Results

F17-07/08

AM

Code Change No: F19-07/08

Original Proposal

Section: 105.4.2.1 (New)

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Add new text as follows:

105.4.2.1 Fire protection system shop drawings. Shop drawings for the fire protections system(s) shall be submitted to indicate conformance with this code and the construction documents and shall be approved prior to the start of installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9.

Reason: This proposed language is identical to the current language in the IBC section 106.1.1.1. The current IFC 105.4.2, which this proposed language would be a subsection of, is the same as 106.1.1 in the IBC. However, the fire protection shop drawing clarification language in 106.1.1.1 was not included under the IFC section 105.4.2. This proposal corrects this omission as the language is needed in the IFC as the fire protection systems are likely to be permitted under the IFC document.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that, while the subject matter is already covered in Sections 901.2 and 907.1.1, the proposal will be useful in specifically targeting "shop drawings", which is a generally understood term in the plan review profession.

Assembly Action:

None

Final Hearing Results

F19-07/08

AS

Code Change No: F20-07/08

Original Proposal

Section: 105.4.4.1 (New)

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Add new text as follows:

105.4.4.1 Phased approval. The fire code official is authorized to issue a permit for the construction of part of a structure, system or operation before the construction documents for the whole structure, system or operation have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for parts of a structure, system or operation shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure, system or operation will be granted.

Reason: Consistency and coordination among the I-Codes are cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established, for the 2006/2007 cycle, and extended, for the 2007/2008 cycle, the ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in the International Codes family and improve the correlation among the I-Codes through the code development process.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes. The intent of this correlation effort is not necessarily to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes.

This proposal focuses on the administration of the permit process and is being submitted by the AHC-Admin to correlate the IFC with current Section 106.3.3 of the *International Building Code* and *International Existing Building Code*, Section R106.3.3 of the *International Residential Code*, and the code changes that were approved in the 2006/2007 cycle creating new Section 106.12 of the *International Wildland-Urban Interface Code* and new Section 104.3.3 of the *International Energy Conservation Code* (see *Supplement to the International Codes/2007*).

This provision would provide the code official with a useful administrative tool by providing the authority to issue a partial permit to allow for the practice of "fast tracking" a job. The section makes it clear that any construction under a partial permit is "at the holder's own risk" and "without assurance that a permit for the entire structure will be granted." The code official is under no obligation to accept work or issue a complete permit in violation of the code, ordinances or statutes simply because a partial permit had been issued. The purpose is to proceed with construction while the design continues for other aspects of the work. The section has been slightly modified from the source texts by adding "systems and operations" to make it more relevant to the IFC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide correlation with the IBC, IEBC, IRC, IWUIC and IECC and facilitate "fast-track" projects.

Assembly Action:

None

Final Hearing Results

F20-07/08

AS

Code Change No: F23-07/08

Original Proposal

Section: 105.6.16

Proponent: Lynne M. Kilpatrick, Fire Department, Seattle, WA, representing Washington State Association of Fire Marshals

Revise as follows:

105.6.16 Flammable and combustible liquids. An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.
2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:
 - 2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the code official, would cause an unsafe condition.
 - 2.2. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.
- ~~4-5.~~ To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.
- ~~5-6.~~ To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
- ~~6-7.~~ To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.
- ~~7-8.~~ To change the type of contents stored in a flammable or combustible liquid tank to a material which poses a greater hazard than that for which the tank was designed and constructed.
- ~~8-9.~~ To manufacture, process, blend or refine flammable or combustible liquids.
- ~~9-10.~~ To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles from tank vehicles at commercial, industrial, governmental or manufacturing establishments.
- ~~10-11.~~ To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.

Reason: Currently there is no requirement to obtain a permit for the storage or use of Class IIIB liquids either inside or outside of a building. In light of the increasing trend to use Class IIIB liquids inside and outside of buildings in connection with fuel-burning equipment and for fueling of motor vehicles this proposal adds a new item 4 that will allow a jurisdiction to require a permit conditioned appropriately for the storage and use of such tank systems. A similar change is not required in Section 105.7.6 for the installation of the tank because the existing text requires an installation permit for all combustible liquid tanks.

The proposed change to item 9 simply clarifies that a permit is required for dispensing fuels into motor vehicles directly from tank vehicles. As written this item can be interpreted to apply to motor vehicle fuel-dispensing stations but Item 5 already requires a permit for motor vehicle fuel-dispensing stations.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Errata: Revise new item 10 to read as follows:

- ~~9-10.~~ To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles from tank vehicles at commercial, industrial, governmental or manufacturing establishments.

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides improved regulation of Class IIIB liquids used as motor fuels.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Lynne M. Kilpatrick, City of Seattle Fire Department, representing Washington State Association of Fire Marshals, requests Approval as Modified by this public comment.

Modify proposal as follows:

105.6.16 Flammable and combustible liquids. An operational permit is required:

1. through 3. (No change to current text)
4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.

Exception: Fuel oil and used motor oil used for space or water heating.

5. through 11. (No change to proposed text)

Commenter's Reason: The intent of the original proposal was to only require a permit for fuel systems connected to generators and motor vehicle fuel dispensing systems utilizing B100/B99 biodiesel (a Class IIIB liquid). While the original intent was achieved, the approved text inadvertently now requires homeowners and other entities to obtain an annual operating permit when heating oil or other fuels that are Class IIIB liquids (liquids that have a flash points $\geq 200^{\circ}\text{F}$) are used in connection with furnaces and water heaters in homes and businesses. This proposed modification, which will add an exception to new Item #4, will correct this unintended oversight by removing the annual operating permit requirement for Class IIIB liquids used in connection with furnaces and water heaters.

Final Hearing Results

F23-07/08

AMPC

Code Change No: **F24-07/08**

Original Proposal

Section: 105.6.16

Proponent: Jon Napier, Fire Department, City of Kent, WA, representing Washington State Building Code Council

Revise as follows:

105.6.16 Flammable and combustible liquids. An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOTn) nor does it apply to piping systems.
2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:

- 2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the code official, would cause an unsafe condition.
- 2.2. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
4. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.
5. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
6. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.
7. To change the type of contents stored in a flammable or combustible liquid tank to a material which poses a greater hazard than that for which the tank was designed and constructed.
8. To manufacture, process, blend or refine flammable or combustible liquids.
9. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.
10. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, vessels and other special equipment at commercial, industrial, governmental or manufacturing establishments.

Reason: Section 105.6.16 does not address the issue of permits for the sites used for dispensing fuel from tank vehicles into the fuel tanks of marine vessels and special equipment. Section 105.6.16(10) requires a permit for utilizing a site for fueling motor vehicles but no mention is made of marine vessels or special equipment. Issuing a permit for dispensing fuel into marine vessels or special equipment would give the code official awareness of the operation and the opportunity to inspect the site. The requirement for a permit could be done by adding "vessels and special equipment" to subsection 10. Recently adopted IFC Chapter 46 – Marinas – defines vessels so we need to address the sites where tank vehicles will be used to fuel them. Special equipment would include equipment at farm and construction sites.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the added term "vessels" is in conflict with the use of the term in other sections of the code. Also, the term "special equipment" is subjective and could lead to inconsistent enforcement. It is also possible that the added text could be interpreted to require a farmer with a small diesel tank in the bed of his pickup truck to get a permit to fill the tank.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jon Napier, Fire Department, Kent, WA, representing Washington State Building Code Council, requests Approval as Modified by this public comment.

Modify proposal as follows:

105.6.16 Flammable and combustible liquids. An operational permit is required:

1. through 9. (No change to current text)
10. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, ~~vessels~~ marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments.

Commenter's Reason: The intent of this code change is to ensure that permits are required when the conditions allowed in Section 3406.5.4.1 occur. I received feedback from the council about using the terms vessel and special equipment. I have removed the defined term of vessel and utilize the term marine craft as used in 3406.5.4.1. I kept special equipment since it also is used in Section 3406.5.4.1 which is shown below for information only.

3406.5.4.1 Marine craft and special equipment. Liquids intended for use as motor fuels are allowed to be transferred from tank vehicles into the fuel tanks of *marine craft and special equipment* when approved by the fire code official, and when:

1. The tank vehicle's specific function is that of supplying fuel to fuel tanks.
2. The operation is not performed where the public has access or where there is unusual exposure to life and property.
3. The dispensing line does not exceed 50 feet (15 240 mm) in length.
4. The dispensing nozzle is approved.

Final Hearing Results

F24-07/08

AMPC

Code Change No: F26-07/08

Original Proposal

Section: 105.7.3

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Revise as follows:

105.7.3 Compressed gases. When the compressed gases in use or storage exceed the amounts listed in Table 105.6.8, a construction permit is required to install, repair damage to, abandon, remove, place temporarily out of service or close or substantially modify a compressed gas system.

Exceptions:

1. Routine maintenance.
2. For emergency repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

~~The permit applicant shall apply for approval to close storage, use or handling facilities at least 30 days prior to the termination of the storage, use or handling of compressed or liquefied gases. Such application shall include any change or alteration of the facility closure plan filed pursuant to Section 2701.6.3. The 30-day period is not applicable when approved based on special circumstances requiring such waiver.~~

Reason: Section 2701.6 addresses facility closure and a 30 day notice is required by 2701.6.3. The requirements in Section 105.7.3 are slightly different from 2701.6.3 where changes to the closure plan are noted and the use of a waiver is mentioned. There is no need to establish permit requirements for closure plans to be submitted for compressed gases that are different from closure plans for any other hazardous material. Closure plans must be approved as required by 2701.5, and if circumstances require additional time the closure plan should be adjusted accordingly. The modifications proposed for Section 105.7.3 bring the requirements for compressed gases into parity with those required by Section 105.7.7 for other hazardous materials.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The proposal was approved because the committee felt that it deletes text on closed storage, use and handling facilities that was brought forward in error from the legacy Uniform Fire Code during the IFC drafting process.

Assembly Action:**None**

Final Hearing Results

F26-07/08

AS

Code Change No: F27-07/08

Original Proposal

Section: 105.7.4 (New)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Add new text as follows:

105.7.4 Cryogenic fluids. A construction permit is required for installation of or modification to outdoor stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.6.10. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

Reason: There are two types of permits required by Section 105.1.2, operational, and construction. Operational and construction permits are required for compressed gas installations under the requirements of Sections 105.6.8 and 105.7.3; however, only operational permits have been required for cryogenic fluids under Section 105.6.10. The omission of required construction permits for cryogenics appears to be an oversight. The application for permit is intended to trigger a plan review that will examine constraints on location, and the requirements of Chapter 32. The issuance of a permit to construct is intended to require the jurisdiction review the appropriate requirements to ensure that the installation meets or exceeds the minimum design criteria integral to the code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

105.7.4 Cryogenic fluids. A construction permit is required for installation of or ~~modification~~ alteration to outdoor stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.6.10. Maintenance performed in accordance with this code is not considered an ~~alteration~~ modification and does not require a construction permit.

Committee Reason: The proposal was approved because the committee felt that it corrects an accidental omission of construction permit requirements during the IFC drafting process and provides a needed clarification of the code. The modification improves internal correlation by using language that is consistent with other sections of the IFC.

Assembly Action:

None

Final Hearing Results

F27-07/08

AM

Code Change No: F28-07/08

Original Proposal

Section: 105.7.6

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Revise as follows:

105.7.6 Flammable and combustible liquids. A construction permit is required:

1. To install, repair or modify a pipeline for the transportation of flammable or combustible liquids.

2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
3. To install, alter, remove, abandon or otherwise dispose of a flammable or combustible liquid tank.

Reason: The current language in 105.7.6 (1) omits the installation of a permit for a new pipeline but requires a permit to repair or modify. This appears to be an oversight as requiring a permit to repair or modify and but not install would leave a large gap in the code compliance oversight for this type of installation. In addition, (2) and (3) or 105.7.6 require a permit for the installation of other types of equipment.

Cost Impact: The code change will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that, due to their hazardous contents, flammable liquid transportation pipelines are as much in need of scrutiny during installation as during repair or modification.

Assembly Action:

None

Final Hearing Results

F28-07/08

AS

Code Change No: F33-07/08

Original Proposal

Section: 112 (New)

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

Add new section as follows:

SECTION 112
SERVICE UTILITIES

112.1 Authority to disconnect service utilities. The fire code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section 102.6 in case of emergency where necessary to eliminate an immediate hazard to life or property. The fire code official shall notify the serving utility and, whenever possible, the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action if not notified prior to disconnection. The owner or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

Reason: Consistency and coordination among the I-Codes are cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established, for the 2006/2007 cycle, and extended, for the 2007/2008 cycle, the ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in the International Codes family and improve the correlation among the I-Codes through the code development process.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes. The intent of this correlation effort is not necessarily to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes.

This proposal focuses on the fire code official's authority to disconnect service utilities under emergency conditions and is being submitted by the AHC-Admin to correlate the IFC with Section 111.3 of the *International Building Code*, Section R111.3 of the *International Residential Code* and the code change that was approved in the 2006/2007 cycle creating Section 111.2 of the *International Wildland Urban Interface Code* (see *Supplement to the International Codes/2007*).

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

This section would authorize the code official to take definitive action to abate hazards caused by or contributed by building utilities by means of disconnection of one or more of a building's utility services where all other lesser remedies have proven ineffective. This section also provides that such an action must be preceded by written notice to the utility and the owner and occupants of the building. When the hazard to the public health, safety or welfare is so imminent as to mandate immediate disconnection, this section makes it clear that the fire code official has the authority and even the obligation to cause disconnection without notice.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

SECTION 112 SERVICE UTILITIES

112.1 Authority to disconnect service utilities. The fire code official shall have the authority to authorize disconnection of utility service to the building, structure or system ~~in order to safely execute emergency operations or regulated by this code and the referenced codes and standards set forth in Section 102.6 in case of emergency where necessary~~ to eliminate an immediate hazard to life or property. The fire code official shall notify the serving utility and, whenever possible, the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action if not notified prior to disconnection. The owner or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

Committee Reason: The proposal was approved because the committee felt that the proponent's reason statement accurately and adequately substantiates the need for the change, which authorizes the code official to take definitive action to abate hazards caused by or contributed to by building utilities by means of disconnection of one or more of a building's utility services where all other lesser remedies have proven ineffective. The modification clarifies that disconnection of utilities is primarily a fire operational issue.

Assembly Action:

None

Final Hearing Results

F33-07/08

AM

Code Change No: F36-07/08

Original Proposal

Section: 202 (New)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Add new definition as follows:

SECTION 202 GENERAL DEFINITIONS

INERT GAS. A gas that is capable of reacting with other materials only under abnormal conditions such as high temperatures, pressures and similar extrinsic physical forces. Within the context of the code, inert gases do not exhibit either physical or health hazard properties as defined (other than acting as a simple asphyxiant) or hazard properties other than those of a compressed gas. Some of the more common inert gases include argon, helium, krypton, neon, nitrogen and xenon.

Reason: The term inert gas is used in a number of sections throughout the code. For example, in Section 1601.1 exception when ethylene is used in fruit ripening, in Section 2006.4 for process mills and kettles, in Section 2211.8.2 for repair of hydrogen systems in repair garages as well as in Chapters 30 Compressed Gases, Chapter 34 Flammable and Combustible Liquids, and Chapter 41 Pyrophoric Materials.

The term "inert gas" is also used in the IMC and the IFGC without definition. The proposed definition is not in conflict with the provisions found in either of these companion codes. The definition includes an explanatory sentence intended to inform the user that inert gases do not react readily with other materials under normal temperatures and pressures, but it is possible for a reaction to occur. For example, even nitrogen

combines with some of the more active metals such as lithium and magnesium to form nitrides, and at high temperatures it will also combine with hydrogen, oxygen, and other elements. The rare inert gases neon, krypton and xenon are considered rare due to their scarcity. Although these gases are commonly referred to as inert gases the formation of compounds is possible. For example, xenon combines with fluorine to form various fluorides, and with oxygen to form oxides. The compounds formed are crystalline solids.

By defining the term the likely use of gases that are not inert including carbon dioxide will be avoided.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will clarify the code by providing a reasonable definition of the term "inert gas" that is used in many sections of the IFC. It was also felt that using the dictionary definition could incorrectly lead to the unanticipated and unintended regulation of certain gases, such as radon.

Assembly Action:

None

Final Hearing Results

F36-07/08

AS

Code Change No: F40-07/08

Original Proposal

Sections: 301.1, 507, 316 (New), 401.5

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Revise as follows:

**CHAPTER 3
GENERAL PRECAUTIONS AGAINST FIRE REQUIREMENTS**

SECTION 301 GENERAL

301.1 Scope. The provisions of this chapter shall govern the occupancy and maintenance of all structures and premises for precautions against fire and the spread of fire and general requirements of fire safety.

2. Delete Section 507 and relocate to new Section 316 as follows:

**SECTION 507 316
HAZARDS TO FIRE FIGHTERS**

507-4 316.1 Trapdoors to be closed. Trapdoors and scuttle covers, other than those that are within a dwelling unit or automatically operated, shall be kept closed at all times except when in use.

507-2 316.2 Shaftway markings. Vertical shafts shall be identified as required by this section.

507-2-4 316.2.1 Exterior access to shaftways. Outside openings accessible to the fire department and which open directly on a hoistway or shaftway communicating between two or more floors in a building shall be plainly marked with the word SHAFTWAY in red letters at least 6 inches (152 mm) high on a white background. Such warning signs shall be placed so as to be readily discernible from the outside of the building.

507-2-2 316.2.2 Interior access to shaftways. Door or window openings to a hoistway or shaftway from the interior of the building shall be plainly marked with the word SHAFTWAY in red letters at least 6 inches (152 mm) high on a white background. Such warning signs shall be placed so as to be readily discernible.

Exception: Marking shall not be required on shaftway openings which are readily discernible as openings onto a shaftway by the construction or arrangement.

507.3 316.3 Pitfalls. The intentional design or alteration of buildings to disable, injure, maim or kill intruders is prohibited. No person shall install and use firearms, sharp or pointed objects, razor wire, explosives, flammable or combustible liquid containers, or dispensers containing highly toxic, toxic, irritant or other hazardous materials in a manner which may passively or actively disable, injure, maim or kill a fire fighter who forcibly enters a building for the purpose of controlling or extinguishing a fire, rescuing trapped occupants or rendering other emergency assistance.

3. Relocate current code Section 401.5 to new Section 316.4 as follows:

401.5 316.4 Security device. Any security device or system that emits any medium that could obscure a means of egress in any building, structure or premise shall be prohibited.

Reason: Section 507 is relocated from Chapter 5 to Chapter 3 since the scope of Chapter 5 is “fire service features”. These requirements are not components or features for the fire service. These issues are general hazards that could exist in any building. Chapter 3 is retitled to “general requirements” and with the revision in the scope this is a more appropriate location for these requirements.

Section 401.5 is also relocated to this new Section 316 addressing FF Hazards. When a user of the IFC looks for this regulation, the user is probably going to look in another location besides Chapter 4 as this is not an emergency planning and preparedness issue. There is no change in the application or the intent of the code text. These sections are merely relocated to provide a more logical location for finding and applying these provisions.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the proponent's reason statement accurately and adequately substantiates the need for the change which provides a needed reorganization of the common fire hazards and firefighter safety issues.

Assembly Action:

None

Final Hearing Results

F40-07/08

AS

Code Change No: F41-07/08

Original Proposal

Section: 304.3.2

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

304.3.2 Capacity exceeding 5.33 cubic feet. Containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15m³) shall be provided with lids. Containers and lids shall be constructed of noncombustible materials or approved combustible materials with a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.

Exception: Waste baskets in Group I-3 occupancies shall comply with Section 808.1.

Reason: Most nonmetallic waste containers are manufactured from polyethylene which has a fuel value of 20,050 btu per pound compared to newsprint at 9,000 btu per pound. To contain combustible waste in another combustible material which has twice the fuel potential value makes little sense. This change will eliminate the possibility of using larger non retardant polyethylene trash containers within a structure. The current language “Approved combustible material” provides no direction. DuPont and Rubbermaid have had the formulation for years to make a retardant polyethylene.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides needed technical specifications for waste containers consistent with other provisions of the IFC. Large containers that do not meet these requirements can pose a significant fuel load hazard.

Assembly Action:

None

Final Hearing Results

F41-07/08

AS

Code Change No: **F42-07/08**

Original Proposal

Section: 304.3.4 (New)

Proponent: James E. Everitt, Everitt and Associates, representing himself

Add new text as follows:

304.3.4 Plastic dumpsters exceeding one cubic yard. Plastic dumpsters having a peak rate of heat release exceeding 300 kW/m² at an incident flux of 50 kW/m² in the horizontal orientation when tested in accordance with ASTM E 1354 shall not be stored within buildings or placed within 15 feet of combustible walls, openings, or combustible roof lines.

Exceptions:

1. Dumpsters or containers in areas protected by an approved automatic sprinkler system complying with Chapter 9.
2. Storage in a structure shall not be prohibited where the structure is of Type I or Type IIA construction, located not less than 10 feet (3048mm) from other buildings and used exclusively for dumpster or container storage

Reason: 03 Commentary Although waste containers of this size (1.5 yards) are nearly always constructed of welded steel because of the weight of the waste load, the very fact that the waste load is large makes the containers a large fire hazard.

Medium density polyethylene dumpsters up to nine cubic yards are now being distributed which have a fuel content of 20,020btu per pound (municipal solid waste averages 4,500btu lb). Medium density polyethylene is essentially equal to the fuel value for gasoline! This material becomes a burning liquid spreading and flowing, it is an unnecessary risk to place them five feet away from a nearby structure.

"FIRE LOSS IN THE UNITED STATES DURING 2005" States: Fires in rubbish outside of structures including dumpsters have increased 10.8% nationally from 2004.

POLYETHYLENE CART



Cost Impact: The code change proposal will not increase the cost of construction. The use of these containers is not wide spread.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because it contains a dumpster size criterion in the section title but not in the body of the text. Since titles are editorial, the section has no framework of applicability. In addition, Section 304.3 scopes its subsections to waste containers inside of buildings, making this proposal out of place as a regulation of dumpsters outside of buildings.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 2:

Marcelo M. Hirschler, GBH International, representing American Fire Safety Council, requests Approval as Modified by this public comment.

Replace proposal as follows:

304.3 Containers. Combustible rubbish, and waste material kept within or near a structure shall be stored in accordance with Sections 304.3.1 through ~~304.3.3~~ 304.3.4 .

304.3.3 Capacity exceeding 1.5 cubic yards. Dumpsters and containers with an individual capacity of 1.5 cubic yards [40.5 cubic feet (1.15 m³)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines.

Exceptions:

1. Dumpsters or containers in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

304.3.4 Dumpsters with a capacity of 1 cubic yard or greater. Dumpsters with an individual capacity of 1.0 cubic yard [200 gallons (0.76 m³)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines unless they are constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.

Exceptions:

1. Dumpsters in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or Type IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

Commenter's Reason: The committee stated that they disapproved this proposal for two reasons: (a) the proposal contained a dumpster size criterion in the section title but not in the body of the text and (b) the proposal addressed waste containers outside of buildings. Changes were made to address both issues.

1. Language, including a title, is being proposed that includes the dumpster size.
2. A change is being proposed to the charging section to show that it actually addresses waste storage near buildings, since section 304.3.3 already covers storage within 5 feet of combustible walls, openings or combustible roof eave lines.
3. The comment proposes revised language that is parallel to that in 304.3.3 with regard to the storage near buildings and the exceptions.
4. The charging section is being proposed to be modified so as to encompass this new section.
5. The new section allows dumpsters to be constructed of non combustible materials.
6. The new section describes dumpsters rather than plastic dumpsters, to make it more generic, as there are no noncombustible plastic materials.

As explained in the original proposal, if these dumpsters are constructed of polyethylene (as they usually are) they represent a severe fire source. The peak rate of heat release criterion recommended, based on ASTM E 1354, is the same one that is already included in the IFC in section 808.1 and was proposed in the accepted proposal F41 for section 304.3.2, as well as in the IBC in 402.11.1.

Final Hearing Results

F42-07/08

AMPC2

Code Change No: F43-07/08

Original Proposal

Section: 307.1.1

Proponent: A. Keith Brown, North Metro Fire Rescue District, representing Fire Marshal's Association of Colorado

Revise as follows:

307.1.1 Prohibited open burning. Open burning ~~that is offensive or objectionable because of smoke or odor emissions or~~ when atmospheric conditions or local circumstances make such fires hazardous shall be prohibited.

Reason: The purpose of the proposed code change is to delete a prohibition imposed by the code; namely, a prohibition against offensive or objectionable smoke or odors resulting from open burning. Enforcement of said prohibition is inherently arbitrary and capricious because the current code language compels the Fire Code Official to render an unreasonably subjective and irreproducible judgment in the absence of quantitative guidelines provided in Section 307 or referenced standards. The proposed language preserves those historic prohibitions, such as high winds (atmospheric conditions) and/or drought (local circumstances), that are demonstrably linked to fire behavior.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing Results

Committee Action:**Disapproved**

Committee Reason: The proposal was disapproved because the committee felt that the current text provides guidance for the fire code official by indicating the basis for responding to open burning complaints and should be retained without change.

Assembly Action:**None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

A. Keith Brown, North Metro Fire Rescue, representing Fire Marshal's Association of Colorado, requests Approval as Modified by this public comment.

Modify proposal as follows:

307.1.1 Prohibited open burning. Open burning that is offensive or objectionable because of smoke emissions or when atmospheric conditions or local circumstances make such fires hazardous shall be prohibited.

Commenter's Reason: F43-07/08 was disapproved by Committee action. This public comment reflects the Committee's discussion that offensive smoke is a long-standing and legitimate basis for responding to open-burning complaints but that responding to complaints of an objectionable odor caused by open burning poses significant enforcement problems due to the excessive subjectivity inherent in evaluating odors. For example, the odor associated with a typical campfire may be pleasant to many people but may be considered acrid and objectionable by many others. The proposed change would eliminate language that forces the code official to make arbitrary decisions often based only on personal perception.

Final Hearing Results

F43-07/08

AMPC

Code Change No: F44-07/08

Original Proposal

Sections: 307.4.3 (New), 307.5, 302.1, 307

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Add new text as follows:

307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used in accordance with manufacturer's instructions at one- and two-family dwellings.

2. Revise as follows:

307.5 Attendance. Open burning, bonfires, ~~or~~ recreational fires and use of portable outdoor fireplaces shall be constantly attended until the fire is extinguished. A minimum of one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire-extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.

3. Revise definitions as follows:

302.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

OPEN BURNING. The burning of materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. Open burning does not include road flares, smudgepots and similar devices associated with safety or occupational uses typically considered open flames, ~~or recreational fires or use of portable outdoor fireplaces.~~ For the purpose of this definition, a chamber shall be regarded as enclosed when, during the time combustion occurs, only apertures, ducts, stacks, flues or chimneys necessary to provide combustion air and permit the escape of exhaust gas are open.

PORTABLE OUTDOOR FIREPLACE. A portable, outdoor, solid-fuel-burning fireplace that may be constructed of steel, concrete, clay or other noncombustible material. A portable outdoor fireplace may be open in design, or may be equipped with a small hearth opening and a short chimney or chimney opening in the top.

RECREATIONAL FIRE. An outdoor fire burning materials other than rubbish where the fuel being burned is not contained in an incinerator, outdoor fireplace, portable outdoor fireplace, barbeque grill or barbeque pit and has a total fuel area of 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height for pleasure, religious, ceremonial, cooking, warmth or similar purposes.

4. Revise section title as follows:

SECTION 307
OPEN BURNING, AND RECREATIONAL FIRES AND PORTABLE OUTDOOR FIREPLACES

Reason: This proposal adds a definition for portable outdoor fireplace and makes minor revision to definitions of open burning and recreational fire for clarification. The proposed addition of subsection 307.4.3 Portable Outdoor Fireplaces makes clear that the use of these devices is specifically regulated.

Portable outdoor fireplaces designed to burn solid fuel are available at retailers ranging from the local grocery to hardware store to big box retailers. Their widespread availability and use has created considerable confusion for citizens and the fire service as to how or if they are regulated by the IFC.

Fires in portable outdoor fireplaces cannot be considered a "recreational fire" because critical to that definition is the concept that the fire is not contained in an incinerator, outdoor fireplace, barbeque grill or barbeque pit. Some may then suggest that a portable outdoor fireplace is merely a type of "outdoor fireplace", but the IFC doesn't contain any references pertaining to where an outdoor fireplace can be located or operated.

Under the definition of open burning, the IFC commentary refers to patio fireplaces and states "These devices neither meet the literal definition of "open burning" nor is their use the type of burning intended to be regulated by Section 307, ..." However, the use and any hazard associated from operating a patio fireplace is closer to the type of activities regulated in Section 307 than use of other specific types of open flame addressed in Section 308. The current IFC Sections 307 and 308 are essentially silent on use of this specific type of device.

The proposal prohibiting use of portable outdoor fireplaces within 15 feet from any structure replicates the first exception under 307.4 Location. However, the proposal allows an exception for use of patio fireplaces at one- and two-family dwellings.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

~~**Exception:** Portable outdoor fireplaces used in accordance with manufacturer's instructions at one- and two-family dwellings.~~

(Portions of the proposal not shown remain unchanged)

Committee Reason: The proposal was approved because the committee felt that it provides needed clarification of the open burning regulations with respect to portable outdoor fireplaces. The modifications recognize that manufacturer's often provide additional safety suggestions in their instructions and that the new provisions should be applicable to all buildings without exception.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Diane Hansen, Fire Department, City of Seattle, WA, representing Washington State Association of Fire Marshals, requests Approval as Modified by this public comment.

Further modify proposal as follows:

307.4.3. Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used at one-and two-family dwellings.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Proposal F-44 was submitted to provide clarity to the fire service and the public regarding regulation of the use of portable outdoor fireplaces, as their use does not meet the definition of either open burning or a recreational fire. Anyone who has ever answered or monitored the incoming phone lines at a large fire department will attest this question has become increasingly more frequent, as availability of the devices has increased to where they can now be found at a wide variety of retail stores, including your local grocery.

The unintended effect of striking the exception to F-44 will result in a new body of work for the fire service as the "portable outdoor fireplace police" and the arbitrator of every neighbor dispute over such use.

The original proposed code language of F-44 was developed with the intent to specifically regulate use of portable outdoor fireplaces at R-1 and R-2 occupancies, but not at one- and two-family homes. The practice of providing exceptions for one- and two-family dwellings from certain regulated activities is consistent with other areas of the code as noted in the following examples.

308.3.1 Open-flame cooking devices – An exception is provided for one and two-family dwellings from the prohibition on use of open flame on combustible balconies and within 10 ft of combustible construction.

308.3.1.1 Liquefied-petroleum-gas-fueled cooking devices. – An exception is provided for one and two-family dwellings from the prohibition on use of LP fueled cooking devices on combustible balconies (greater than 2.5 pounds) and within 10 ft. of combustible construction.

603.4 Portable unvented heaters. An exception is provided for one and two-family dwellings on the prohibition of use of unvented heaters inside dwellings.

903.4 Sprinkler system monitoring and alarms and 907.15 Monitoring. One and two-family dwellings are exempted from the monitoring of sprinkler systems and alarms through an exception.

The IFC provides minimum standards for fire and life safety. There may be some states where climatic conditions are such that potential for urban, urban-interface and wildland fires would warrant the regulation of these devices at one- and two-family dwellings. But as a minimum code, those jurisdictions requiring more stringent regulations should enact those regulations, and not subject all jurisdictions to enforcing requirements that may not be necessary, and may in fact be too burdensome when compared with the incidence of fire from the regulated activity.

Approving the F-44 as modified by the proposed exception takes a similar activity and treats it consistently with the manner in which the code addresses use of open flame and use of charcoal and LP-fueled cooking devices at one and two-family dwellings.

Approving the exception as proposed by this comment will relieve the fire service from the role as regulator of a common activity in one- and two-family dwellings. This is a delicate line that should be crossed only when fire incidence and imminent threat to life safety clearly warrants such action.

Final Hearing Results

F44-07/08

AMPC1

Code Change No: F48-07/08

Original Proposal

Section: 308.3.1

Proponent: Michael E. Dell'Orfano, South Metro Fire District, representing Fire Marshal's Association of Colorado

Revise as follows:

308.3.4 308.7 (Supp) Open-flame cooking devices. Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 ft (3048 mm) of any combustible construction.

Exceptions:

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.
3. LP-gas cooking devices having an LP-gas container with a water capacity not greater than 2.5 pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

Reason: The focus of IFC Section 308.3 appears to be on open-flame decorative devices and their related uses. The flow and intent of Section 308.3 gets confused when a stand-alone topic such as "open-flame cooking devices" is inserted. Therefore, the purpose of this code change proposal is to remove open-flame cooking device regulations from Section 308.3 and create a new section (308.7) to address this issue. Section 308.7, then, would be similar to Sections 308.5 and 308.6 which address other stand-alone, specific topics.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a desirable relocation of the open flame cooking provisions to a more appropriate section.

Assembly Action:

None

Final Hearing Results

F48-07/08

AS

Code Change No: **F51-07/08**

Original Proposal

Section: 308

Proponent: Ian MacDonald, Fire Department, City of Orange, CA, representing California Fire Chiefs Association

1. Revise as follows:

308.1 General. Open flame, fire and burning on all premises shall be in accordance with Sections 308.1 through 308.4, and with other applicable sections of this code. This section shall control open flames, fire and burning on all premises.

308-2 308.1.1 Where prohibited. A person shall not take or utilize an open flame or light in a structure, vessel, boat or other place where highly flammable, combustible or explosive material is utilized or stored. Lighting appliances shall be well-secured in a glass globe and wire mesh cage or a similar approved device.

308-2.1 308.1.2 Throwing or placing sources of ignition. No person shall throw or place, or cause to be thrown or placed, a lighted match, cigar, cigarette, matches, or other flaming or glowing substance or object on any surface or article where it can cause an unwanted fire.

308.4 308.1.3 Torches for removing paint. Persons utilizing a torch or other flame-producing device for removing paint from a structure shall provide a minimum of one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized.

308-3.1 (Supp) 308.1.4 Open-flame cooking devices. Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.

3- 308.1.4.1 Liquefied-petroleum-gas-fueled cooking devices. LP-gas cooking devices having LP gas containers with a water capacity not greater than 2.5 pounds (nominal 1 pound (0.454 kg) LP-gas capacity) shall not be located on combustible balconies or within 10 feet (3048 mm) of combustible construction.

Exception: One- and two-family dwellings.

308-3.3 308.1.5 Location near combustibles. Open flames such as from candles, lanterns, kerosene heaters, and gas-fired heaters shall not be located on or near decorative material or similar combustible materials.

308.5 (Supp) 308.1.6 Open-flame devices. Torches and other devices, machines or processes liable to start or cause fire shall not be operated or used in or upon wildfire risk areas, except by a permit in accordance with Section 105.6 secured from the fire code official.

Exception: Use within inhabited premises or designated campsites which are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

308.5.4 (Supp) 308.1.6.1 Signals and markers. Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or upon wildfire risk areas.

Exception: The proper use of fuses at the scenes of emergencies or as required by standard railroad operating procedures.

308.5.2 308.1.6.2 Portable fueled open-flame devices. Portable open-flame devices fueled by flammable or combustible gases or liquids shall be enclosed or installed in such a manner as to prevent the flame from contacting combustible material.

Exceptions:

1. LP-gas-fueled devices used for sweating pipe joints or removing paint in accordance with Chapter 38.
2. Cutting and welding operations in accordance with Chapter 26.
3. Torches or flame-producing devices in accordance with Section 308.4.
4. Candles and open-flame decorative devices in accordance with Section 308.3.

2. Add new text as follows:

308.2 Permits required. Permits shall be obtained from the fire code official in accordance with Section 105.6 prior to engaging in the following activities involving open flame, fire and burning:

1. Use of a torch or flame-producing device to remove paint from a structure.
2. Use of open flame, fire or burning in connection with Group A or E occupancies.
3. Use or operation of torches and other devices, machines or processes liable to start or cause fire in or upon hazardous fire areas.

3. Revise as follows:

308.3.7 308.3 Group A occupancies. Open-flame, ~~devices~~ fire and burning shall not be used allowed in a Group A occupancy occupancies unless specifically permitted by the fire code official, and used in accordance with the requirements of Sections 308.1 and 308.3.

Exceptions:

1. Open-flame devices are allowed to be used in the following situations, provided approved precautions are taken to prevent ignition of a combustible material or injury to occupants:
 - 1.1. Where necessary for ceremonial or religious purposes in accordance with Section 308.3.5.
 - 1.2. On stages and platforms as a necessary part of a performance in accordance with Section 308.3.6.
 - 1.3. Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.
2. Heat-producing equipment complying with Chapter 6 and the International Mechanical Code.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.

308.3.2 308.3.1 Candles and other open-flame decorative devices. Candles and other open-flame decorative devices in drinking and dining establishments shall comply with all of the following restrictions:

1. Class I and Class II liquids and LP-gas shall not be used.
2. Liquid- or solid-fueled lighting devices containing more than 8 ounces (237 ml) of fuel must self-extinguish and not leak fuel at a rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.
3. The device or holder shall be constructed to prevent the spillage of liquid fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) when the device or holder is not in an upright position.

4. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.

Exception: Devices that self-extinguish if tipped over and do not spill fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

5. The flame shall be enclosed except where openings on the side are not more than 0.375 inch (9.5 mm) diameter or where openings are on the top and the distance to the top is such that a piece of tissue paper placed on the top will not ignite in 10 seconds.
6. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.

Exception: A chimney is not required to be attached to any open-flame device that will self-extinguish if the device is tipped over.

7. Fuel canisters shall be safely sealed for storage.
8. Storage and handling of combustible liquids shall be in accordance with Chapter 34.
9. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame device holder or chimney.
10. Candelabras with flame-lighted candles shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

~~308.3.5~~ **308.3.1.1 Religious ceremonies.** When, in the opinion of the fire code official, adequate safeguards have been taken, participants in religious ceremonies are allowed to carry hand-held candles. Hand-held candles shall not be passed from one person to another while lighted.

~~308.3.4~~ **308.3.1.2 Aisles and exits.** Candles shall be prohibited in areas where occupants stand, or in an aisle or exit.

~~308.6~~ **308.3.2 Flaming food and beverage preparation.** The preparation of flaming foods or beverages in ~~places of assembly and drinking or dining establishments areas, dining areas of restaurants and drinking establishments~~ shall be in accordance with Sections ~~308.6.4~~ 308.3.2.1 through ~~308.6.5~~ 308.3.2.5.

~~308.6.1~~ **308.3.2.1 Dispensing.** Flammable or combustible liquids used in the preparation of flaming foods or beverages shall be dispensed from one of the following:

1. A 1-ounce (29.6 ml) container; or
2. A container not exceeding 1-quart (946.5 ml) capacity with a controlled pouring device that will limit the flow to a 1-ounce (29.6 ml) serving.

~~308.6.2~~ **308.3.2.2 Containers not in use.** Containers shall be secured to prevent spillage when not in use.

~~308.6.3~~ **308.3.2.3 Serving of flaming food.** The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.

~~308.6.4~~ **308.3.2.4 Location.** Flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.

~~308.6.5~~ **308.3.2.5 Fire protection.** The person preparing the flaming foods or beverages shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.

~~308.3.6~~ **308.3.3 Theatrical performances.** Where ~~approved~~ permitted, open-flame devices used in conjunction with theatrical performances are allowed to be used when adequate safety precautions have been taken in accordance with NFPA 160.

4. Add new text as follows:

308.4 Group R Occupancies. Open flame, fire and burning in Group R occupancies shall comply with the requirements of Sections 308.1 through 308.1.6.2 and 308.4.1.

5. Revise as follows:

~~308.3.8~~ **308.4.1 Group R-2 dormitories.** Candles, incense and similar open-flame-producing items shall not be allowed in sleeping units in Group R-2 dormitory occupancies.

Reason: This proposal creates consistency within Section 308, consistency with the language in Sections 105.6.30, 105.6.31, and 105.6.32 (permits), and with the rest of the fire code. Specifically, it cleans up inconsistent code language, reformats the section to provide more consistency with the rest of the code as well as improving the logical flow of the section, moves open-flame cooking devices out from underneath Group A and E occupancy requirements, and allows for sections related to open flame, fire and burning in other areas of the code (e.g. Sections 1503.2.2. and 1103.1).

Justification for revisions and new text is as follows:

Section 308.1 This language specifies all of the subsections in section 308, as is consistent with other IFC code language. Provisions are added for required compliance with the remainder of the code.

Sections 308.1.1 through 308.1.6.2 All of the general code sections have been moved to 308.1, which is appropriately named "General." Sections containing special requirements according to occupancies groups contain language requiring compliance with the specific and general requirements. This language is consistent with the remainder of the fire code (e.g. Section 2704.1).

Section 308.1.4 has been moved from 308.3.1. It was originally a subsection of 308.3, which contained requirements for obtaining a permit for open flame in Group A and E occupancies. Section 308.3.1 and 308.3.1.1 should not only apply to open-flame cooking devices within Group A and E occupancies, especially with exceptions for one- and two-family dwellings.

Section 308.2 New text was added for permits. The ".2" subsection is consistent within the code for permit information.

Section 308.3 The language was modified for consistency with Section 308.1. The revised language also ensures compliance with both the general and specific requirements.

Section 308.3.1 The addition of candles in the language provides clarity to the requirements without diminishing them. The more general reference to drinking and dining establishments is appropriate, as there should not be the differentiation between the kitchen and dining areas of the restaurant in this case. The differentiation is appropriate when addressing flaming food and beverage preparation, which is appropriately conducted in the kitchen.

Section 308.3.2 The differentiation between assembly, drinking and dining areas of restaurants and drinking establishments, and the kitchen or preparation areas.

Section 308.4 The added language ensures compliance with both the general and specific requirements of Section 308, and is also consistent with the rest of the fire code language.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the proponent's efforts should be continued to correct the issues cited in his failed modification and several items that were noted by the committee, including the all-inclusive Group A applicability of some provisions that would exempt Group B religious or assembly uses of less than 50 persons and the confusing language "drinking and dining establishments" in Section 308.3.1 that could exempt bars that do not serve food and restaurants that do not serve liquor. Also, Section 308.1.4.1 could be interpreted as allowing LP-gas fired cooking devices with tanks greater than 2.5 pounds to be used within 10 feet of combustible construction.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Ian MacDonald, City of Orange, CA, representing California Fire Chiefs' Association, requests Approval as Modified by this public comment.

Replace proposal as follows:

308.1 General. Open flame, fire and burning on all premises shall be in accordance with Sections 308.1 through 308.4, and with other applicable sections of this code. This section shall control open flames, fire and burning on all premises.

308.2 308.1.1 Where prohibited. A person shall not take or utilize an open flame or light in a structure, vessel, boat or other place where highly flammable, combustible or explosive material is utilized or stored. Lighting appliances shall be well-secured in a glass globe and wire mesh cage or a similar approved device.

~~308.2.4~~ **308.1.2 Throwing or placing sources of ignition.** No person shall throw or place, or cause to be thrown or placed, a lighted match, cigar, cigarette, matches, or other flaming or glowing substance or object on any surface or article where it can cause an unwanted fire.

308.4 308.1.3 Torches for removing paint. Persons utilizing a torch or other flame-producing device for removing paint from a structure shall provide a minimum of one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized.

308.3.4 (Supp) 308.1.4 Open-flame cooking devices. Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. One- and two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.
3. LP-gas cooking devices having LP gas containers with a water capacity not greater than 2.5 pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

308.3.3 308.1.5 Location near combustibles. Open flames such as from candles, lanterns, kerosene heaters, and gas-fired heaters shall not be located on or near decorative material or similar combustible materials.

308.5 (Supp) 308.1.6 Open-flame devices. Torches and other devices, machines or processes liable to start or cause fire shall not be operated or used in or upon wildfire risk areas, except by a permit in accordance with Section 105.6 secured from the fire code official.

Exception: Use within inhabited premises or designated campsites which are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

308.5.4 (Supp) 308.1.6.1 Signals and markers. Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or upon wildfire risk areas.

Exception: The proper use of fuses at the scenes of emergencies or as required by standard railroad operating procedures.

308.5.2 308.1.6.2 Portable fueled open-flame devices. Portable open-flame devices fueled by flammable or combustible gases or liquids shall be enclosed or installed in such a manner as to prevent the flame from contacting combustible material.

Exceptions:

1. LP-gas-fueled devices used for sweating pipe joints or removing paint in accordance with Chapter 38.
2. Cutting and welding operations in accordance with Chapter 26.
3. Torches or flame-producing devices in accordance with Section 308.1.3.
4. Candles and open-flame decorative devices in accordance with Section 308.3.1.

308.3.5 308.1.7 Religious ceremonies. When, in the opinion of the code official, adequate safeguards have been taken, participants in religious ceremonies are allowed to carry hand-held candles. Hand-held candles shall not be passed from one person to another while lighted.

308.3.4 308.1.7.1 Aisles and exits. Candles shall be prohibited in areas where occupants stand, or in an aisle or exit.

308.6 308.1.8 Flaming food and beverage preparation. The preparation of flaming foods or beverages in places of assembly and drinking or dining establishments shall be in accordance with Sections ~~308.6.4~~ 308.1.8 through ~~308.6.5~~ 308.1.8.5.

308.6.4 308.1.8.1 Dispensing. Flammable or combustible liquids used in the preparation of flaming foods or beverages shall be dispensed from one of the following:

1. A 1-ounce (29.6 ml) container, or
2. A container not exceeding 1 quart (946 ml) capacity with a controlled pouring device that will limit the flow to a 1 ounce (29.6 ml) serving.

308.6.2 308.1.8.2 Containers not in use. Containers shall be secured to prevent spillage when not in use.

308.6.3 308.1.8.3 Serving of flaming food. The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.

308.6.4 308.1.8.4 Location. Flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.

308.6.5 308.1.8.5 Fire protection. The person preparing the flaming foods or beverages shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.

308.2 Permits required. Permits shall be obtained from the fire code official in accordance with Section 105.6 prior to engaging in the following activities involving open flame, fire and burning:

1. Use of a torch or flame-producing device to remove paint from a structure.
2. Use of open flame, fire or burning in connection with Group A or E occupancies.
3. Use or operation of torches and other devices, machines or processes liable to start or cause fire in or upon hazardous fire areas.

308.3.7 308.3 Group A occupancies. Open-flame devices shall not be used in a Group A occupancy.

Exceptions:

1. Open-flame devices are allowed to be used in the following situations, provided approved precautions are taken to prevent ignition of a combustible material or injury to occupants:

- 1.1. Where necessary for ceremonial or religious purposes in accordance with Section 308.1.7.
- 1.2. On stages and platforms as a necessary part of a performance in accordance with Section 308.3.2.
- 1.3. Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.
2. Heat-producing equipment complying with Chapter 6 and the *International Mechanical Code*.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.

308.3.2 308.3.1 Open-flame decorative devices. Open-flame decorative devices shall comply with all of the following restrictions:

1. Class I and Class II liquids and LP-gas shall not be used.
2. Liquid- or solid-fueled lighting devices containing more than 8 ounces (237 ml) of fuel must self-extinguish and not leak fuel at a rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.
3. The device or holder shall be constructed to prevent the spillage of liquid fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) when the device or holder is not in an upright position.
4. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.

Exception: Devices that self-extinguish if tipped over and do not spill fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

5. The flame shall be enclosed except where openings on the side are not more than 0.375 inch (9.5 mm) diameter or where openings are on the top and the distance to the top is such that a piece of tissue paper placed on the top will not ignite in 10 seconds.
6. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.

Exception: A chimney is not required to be attached to any open-flame device that will self-extinguish if the device is tipped over.

7. Fuel canisters shall be safely sealed for storage.
8. Storage and handling of combustible liquids shall be in accordance with Chapter 34.
9. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame device holder or chimney.
10. Candelabras with flame-lighted candles shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

308.3.6 308.3.2 Theatrical performances. Where approved, open-flame devices used in conjunction with theatrical performances are allowed to be used when adequate safety precautions have been taken in accordance with NFPA 160.

308.4 Group R Occupancies. Open flame, fire and burning in Group R occupancies shall comply with the requirements of Sections 308.1 through 308.1.6.2 and 308.4.1.

308.3.8 308.4.1 Group R-2 dormitories. Candles, incense and similar open-flame-producing items shall not be allowed in sleeping units in Group R-2 dormitory occupancies.

Commenter's Reason: The intent behind the original proposal was to simplify the section by reformatting it. Along the way, the proponent erringly mixed code changes with the reformat, which overly complicated the proposal.

After the committee hearing, the proponent heeded the advice of the committee, and changed much of the language back to its original form. Other committee-recommended changes were made to make the format appealing to code users:

- “Religious ceremonies” and “flaming food and beverage preparation” were moved out from under the “assembly” provisions to the “general” provisions to allow for application in Group B occupancies.
- The references to “drinking and dining” establishments were removed to preclude confusion regarding establishments that are “dining” only, without serving alcohol, and “drinking” establishments that do not serve food.
- The exception for LP-gas fired cooking devices was changed back to its original language.

These changes were made to allow the vote to concentrate on the reformatting, and not code changes. Here is the existing format:

308 – Open flame

308.1 – General

308.2 – Where prohibited

308.3 – Open flame

308.4 – Torches for removing paint

308.5 – Open flame devices

308.6 – Flaming food and beverage preparation

Many good changes have been made to Section 308, but the lack of a recent comprehensive format has made the flow of code requirements a bit awkward. For example, requirements for permits are referenced throughout the requirements. Requirements based upon occupancy are layered within the “open flame” requirements. The “open flame” subsection seems redundant, as the whole of the section addresses open flame. “Torches for removing paint” does not fall under the subsection addressing open flame.

Here is the new format:

308 – Open flame

308.1 – General

308.2 – Permits required

308.3 – Group A occupancies

308.4 – Group R occupancies

All of the special subjects are grouped under the general section. All three of the required permits are addressed in one subsection. You will find that the flow of the requirements, which have not changed, is smoother and more logical now. If it can be done better, please contact the proponent to fix the modification. Thank you.

Final Hearing Results

F51-07/08

AMPC

Code Change No: **F53-07/08**

Original Proposal

Section: 311.2.2

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

311.2.2 Fire protection. Fire alarm, sprinkler and standpipe systems shall be maintained in an operable condition at all times.

Exceptions:

1. When the premises have been cleared of all combustible materials and debris and, in the opinion of the fire code official, the type of construction, fire separation distance and security of the premises do not create a fire hazard.
2. Where approved, buildings that will not be heated and where fire protection systems will be exposed to freezing temperatures, fire alarm and sprinkler systems are permitted to be placed out of service and standpipes are permitted to be maintained as dry systems (without an automatic water supply) provided the building has no contents or storage, and windows, doors and other openings are secured to prohibit entry by unauthorized persons.

Reason: This proposal will require that the allowance to place either a fire sprinkler system or a fire alarm system out of service must be approved. It will not be an automatic allowance and acceptable practice. This proposal only indicates "approval" which will require that the use of this exception is approved by what ever process the local jurisdiction determines to be appropriate. It may need to include the fire code official, building code official, and fire chief, or any combination of these positions.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

311.2.2 Fire protection. Fire alarm, sprinkler and standpipe systems shall be maintained in an operable condition at all times.

Exceptions:

1. When the premises have been cleared of all combustible materials and debris and, in the opinion of the fire code official, the type of construction, fire separation distance and security of the premises do not create a fire hazard.
2. Where approved by the fire chief, buildings that will not be heated and where fire protection systems will be exposed to freezing temperatures, fire alarm and sprinkler systems are permitted to be placed out of service and standpipes are permitted to be maintained as dry systems (without an automatic water supply) provided the building has no contents or storage, and windows, doors and other openings are secured to prohibit entry by unauthorized persons.

Committee Reason: The proposal was approved because the committee felt that it is appropriate to require the jurisdiction to determine the appropriateness of taking an unheated building fire protection system out of service. The modification recognizes that this is primarily an operational issue and places the approval with the fire chief.

Assembly Action:

None

Final Hearing Results

F53-07/08

AM

Code Change No: F54-07/08

Original Proposal

Section: 311.5.4

Proponent: Sean DeCrane, Fire Department, Cleveland, OH, representing International Association of Fire Fighters, Local 93

Revise as follows:

311.5.4 Placard symbols. The design of the placards shall use the following symbols:

1. [] This symbol shall mean that the structure had normal structural conditions at the time of marking.
2. [] This symbol shall mean that structural or interior hazards exist and interior fire-fighting or rescue operations should be conducted with extreme caution.
3. [X] This symbol shall mean that structural or interior hazards exist to a degree that consideration should be given to limit fire fighting to exterior operations only, with entry only occurring for known life hazards.
4. Vacant Marker Hazard Identification Symbols: The following symbols shall used to designate known hazards on the Vacant Building Marker. They shall be painted directly above the symbol.
 - 4.1. R/O - Roof Open
 - 4.2. S/M - Stairs, Steps and Landing Missing
 - 4.3. F/E – Avoid Fire Escapes
 - 4.4. H/F – Holes in Floor

Reason: There are a number of cities that are now requiring their fire departments to identify, and label, vacant buildings and the hazards they present to fire fighters. A vacant building can contain many hazards and unknowns to a responding fire fighter. During normal fire company operations, or after a response to a fire in a vacant structure, the fire department can simply paint, or use a placard, to designate the hazards encountered in the structure. By labeling the various degrees of hazards, the incident commanders can restrict operations to strictly defensive or cautious offensive operations. Simply identifying the known hazards allows the Incident Commander to have a clearer picture of the hazards contained in the building.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

311.5.4 Placard symbols. The design of the placards shall use the following symbols:

1. [] This symbol shall mean that the structure had normal structural conditions at the time of marking.
2. [] This symbol shall mean that structural or interior hazards exist and interior fire-fighting or rescue operations should be conducted with extreme caution.
3. [X] This symbol shall mean that structural or interior hazards exist to a degree that consideration should be given to limit fire fighting to exterior operations only, with entry only occurring for known life hazards.
4. Vacant Marker Hazard Identification Symbols: The following symbols shall used to designate known hazards on the Vacant Building Marker. They shall be ~~painted~~ placed directly above the symbol.
 - 4.1. R/O - Roof Open
 - 4.2. S/M - Stairs, Steps and Landing Missing
 - 4.3. F/E – Avoid Fire Escapes
 - 4.4. H/F – Holes in Floor

Committee Reason: The proposal was approved because the committee felt that it is appropriate to provide the fire department incident commander with enhanced tactical information about the hazards to firefighters present in vacant buildings. The modification provides flexibility in how the placards are to be displayed rather than only allowing them to be painted on the building which could present long-term maintenance issues.

Assembly Action:

None

Final Hearing Results

F54-07/08

AM

Code Change No: **F55-07/08**

Original Proposal

Section: 313.1

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

313.1 General. Fueled equipment, including but not limited to motorcycles, mopeds, lawn-care equipment, portable generators and portable cooking equipment, shall not be stored, operated or repaired within a building.

Exceptions:

1. Buildings or rooms constructed for such use in accordance with the *International Building Code*.
2. Where allowed by Section 314.
3. Storage of equipment utilized for maintenance purposes is allowed in approved locations when the aggregate fuel capacity of the stored equipment does not exceed 10 gallons (38 L) and the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

Reason: This revision is needed to clarify that portable generators are not allowed for use inside buildings based on the current code text. The only exception to this is when utilized in accordance with one of the exceptions. This provision clarifies the current intent of the code. As the result of recent tragic hurricanes it was documented that multiple fatalities occurred as the result of the improper use and location of portable generators.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which clarifies the intent of the code in its prohibition of the storage, use or repair of fueled equipment inside of buildings by including portable generator sets.

Assembly Action:

None

Final Hearing Results

F55-07/08

AS

Code Change No: **F56-07/08**

Original Proposal

Section: 315.3.1

Proponent: Ernest Little, Captain-Code Compliance, Prince William County, VA Fire Marshals Office

Revise as follows:

315.3.1 Storage beneath overhead projections from buildings. ~~Combustible materials stored or displayed outside of buildings that are protected by automatic sprinklers shall not be stored or displayed under nonsprinklered eaves, canopies or other projections or overhangs.~~ Where buildings are required to be protected by automatic

sprinklers, the outdoor storage, display, and handling of combustible materials under eaves, canopies or other projections or overhangs is prohibited except where automatic sprinklers are installed under such eaves, canopies or other projections or overhangs.

Reason: The purpose of this code language change is to clarify the requirement for automatic sprinklers, where automatic sprinklers are “required” to be installed to protect the building, to protect the space under eaves, canopies, or other projections or overhangs when combustibles are stored, displayed, or handled there. When a building is “required” to have an automatic sprinkler system installed throughout, NFPA 13, the standard for installation of sprinkler systems, has clear intention to have this space protected by automatic sprinklers. This NFPA standard has been the adopted reference in the past by the BOCA Basic Building Code and IBC for installation of automatic sprinklers. NFPA 13- 02 section 8-14.7.4 states “Sprinklers shall be installed under roofs or canopies over areas where combustibles are stored and handled.” The intent of this requirement is to prevent a fire involving the combustible materials stored or handled under a roof or canopy, from entering the overhead area and getting above the sprinkler system protecting the structure, thus overwhelming the fire protection system preventing control and extinguishment of the fire. The NFPA 13 standard requires automatic sprinklers “in” the canopy or an overhead structure when it contains combustible construction and under the canopy or overhead structure when combustibles are stored, displayed, or handled under it. The current language contained in the IFC is not clear as to the need for automatic sprinklers “under” the overhead structure. When challenged, the current code section, as written, could be interpreted as only requiring automatic sprinklers “in” the canopy. The code change provides the necessary clarification of the code requirement.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

315.3.1 Storage beneath overhead projections from buildings. Where buildings are ~~required to be~~ protected by automatic sprinklers, the outdoor storage, display, and handling of combustible materials under eaves, canopies or other projections or overhangs is prohibited except where automatic sprinklers are installed under such eaves, canopies or other projections or overhangs.

Committee Reason: The proposal was approved because the committee felt that it will reinforce the requirements of NFPA 13 and provide clearer guidance to the fire code official in regulating outdoor combustible storage under eaves and canopies. The modification reflects the committee's opinion that any building protected by sprinklers should comply with the requirements as a matter of good fire protection, not just those required by the code to be sprinklered.

Assembly Action:

None

Final Hearing Results

F56-07/08

AM

Code Change No: F58-07/08

Original Proposal

Section: 316 (New)

Proponent: James Everitt, Everitt and Associates, representing McClure Industries

Add new section as follows:

SECTION 316
LAUNDRY CARTS

316.1 Laundry carts in commercial laundries. Laundry carts used for commercial laundries shall be constructed of noncombustible materials or materials having a peak rate of heat release not exceeding 300 kW/m² at a flux of 50 kW/m² when tested in a horizontal orientation in accordance with ASTM E 1354. Such laundry carts shall be permanently labeled indicating capacity and peak rate of heat release.

Exceptions:

1. Laundry carts in buildings protected with an approved automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.
2. Laundry carts in coin-operated laundries.

Reason: The change from cooking with animal fat to vegetable oil has increased the amount of spontaneous ignition fires. These fires occur outside due to external heating from the sun or by insufficient cool down time in the laundry process and have been known to ignite in freshly folded linen.

Polyethylene laundry carts have a fuel value equal to gasoline and the continued use of these carts is inappropriate. The City of Portland has experienced three recent fires two of which were \$400k+ each with extensions \$100k+ each, due to spontaneous ignition. Last year the Oregon State Coffey Creek Correction Facility had a commercial dryer fire with no loss using the ASTM E 1354 container. The commercial dryer fire was emptied in to the container and taken outside and overhauled without evacuation, loss to the structure or damage the container.

These laundry carts are currently available. This revision is supported by the Oregon Laundry Association and is now part of the Oregon amended IFC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the proposal lacked clarity as to whether carts in coin-operated laundries would be included in the regulations and that the use of the undefined term "commercial laundry" could result in inconsistent enforcement. Also, the applicability of the regulations to existing carts has not been portrayed. The committee felt that a size/capacity of the carts to be regulated should be included.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

James Everitt, Everitt and Associates, requests Approval as Modified by this public comment.

Replace proposal as follows:

**SECTION 316
LAUNDRY CARTS**

316.1 Laundry carts with a capacity exceeding 1 cubic yard. Laundry carts with an individual capacity of 1 cubic yard [200 gallons (0.76 m³)] or more, used in laundries within group B, F-1, I, and group R-1 occupancies shall be constructed of noncombustible materials or materials having a peak rate of heat release not exceeding 300 kW/m² at a flux of 50 kW/m² when tested in a horizontal orientation in accordance with ASTM E 1354.

Exceptions:

1. Laundry carts in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1.
2. Laundry carts in coin-operated laundries

Commenter's Reason:

- 1) To comply with the directions of the committee.
- 2) As stated by the original proposal: Polyethylene laundry carts have a fuel value equal to gasoline and are frequently subject to spontaneous ignition. The City of Portland has experienced two recent fires \$400k+ each with extensions \$100k+ each, due to spontaneous ignition. Last year the Oregon State Coffey Creek Correction Facility had a commercial dryer fire with no loss using the ASTM E 1354 container. The commercial dryer fire was emptied in to the container and taken outside and overhauled without evacuation, loss to the structure or damage the container. This revision is supported by the Oregon Laundry Association.

Final Hearing Results

F58-07/08

AMPC1

Code Change No: F59-07/08

Original Proposal

Section: 403.3 (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Add new text as follows:

403.3 Crowd manager. Trained crowd managers shall be provided for facilities or events where more than 1000 persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager to every 250 persons. Where approved by the fire code official, the ratio of crowd managers shall be permitted to be reduced where the facility is equipped throughout with an approved automatic sprinkler system or based upon the nature of the event.

Reason: The only requirement for crowd managers is in Section 2404.20 for tents. Large assemblies of people create the need for crowd management due to panic and fear in emergency situations in numerous other locations than just tents. It is the intent of this proposal for crowd managers to be personnel already assigned and employed by the facility. Current employees can be trained as crowd managers to fulfill this requirement. At the time of an emergency, the trained crowd managers would take on these additional responsibilities to control and direct the audience or attendees in a safe manner.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it is appropriate to provide enhanced life safety in large Group A venues by providing patron assistance in emergencies. The committee did observe, however, that there should be more guidance on the training required and clarification that existing staff can be used and the fact that new staff need not be hired for this purpose.

Assembly Action:

None

Final Hearing Results

F59-07/08

AS

Code Change No: F60-07/08

Original Proposal

Section: 404.2, Table 405.2

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

404.2 Where required. An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.

1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an occupant load less than 2,000.
2. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.

3. Group E.
4. ~~5.~~ Group F.
~~5.~~ ~~6.~~ Group H.
~~6.~~ ~~7.~~ Group I.
~~7.~~ ~~8.~~ Group R-1.
~~8.~~ ~~9.~~ Group R-2 college and university buildings.
~~9.~~ ~~10.~~ Group R-4.
~~10.~~ ~~11.~~ High-rise buildings.
~~11.~~ ~~12.~~ Group M buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
~~12.~~ ~~13.~~ Covered malls exceeding 50,000 square feet (4645 m²) in aggregate floor area.
~~13.~~ ~~14.~~ Underground buildings.
~~14.~~ ~~15.~~ Buildings with an atrium and having an occupancy in Group A, E or M.

**TABLE 405.2
FIRE AND EVACUATION DRILL FREQUENCY AND PARTICIPATION**

GROUP OR OCCUPANCY	FREQUENCY	PARTICIPATION
Group A	Quarterly	Employees
Group B ^c	Annually	Employees
Group E	Monthly ^a	All occupants
<u>Group F</u>	<u>Annually</u>	<u>Employees</u>
Group I	Quarterly on each shift	Employees ^b
Group R-1	Quarterly on each shift	Employees
Group R-2 ^d	Four annually	All occupants
Group R-4	Quarterly on each shift	Employees ^b
High-rise buildings	Annually	Employees

(Footnotes remain unchanged)

Reason: The IFC currently requires fire-safety plans in practically every occupancy group with the exception of Group F occupancies. Under the Code, the only "manufacturing" occupancy that requires a fire-safety plan is Group H occupancies. The only difference between a Group F and a Group H occupancy is the aggregate amount of hazardous materials present in the facility and some of the manufacturing processes. In many Group F occupancies, there can be processes and hazards that theoretically make them just as hazardous as a Group H occupancy. But because these facilities fall short of the aggregate amount of chemicals, they are not classified as Group H.

Group F manufacturing facilities should have written fire safety and evacuation plans to protect the workers. Under 29 CFR 1910.39(b), OSHA requires that any workplace with more than ten (10) employees shall have a written fire prevention plan. The code should at least parallel the OSHA Standard.

Manufacturing facilities should be required to have at least annual emergency evacuation drills due to the size and complexity of some of these facilities. It will increase the life safety of the occupants to practice evacuation procedures.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it is appropriate to enhance the level of safety in industrial occupancies by requiring a fire safety and evacuation plan and drills for employees. The committee did observe, however, that further definition of the applicability triggers is needed, e.g. in how big a Group F, how many occupants, should Group F-2, which deals with essentially noncombustible materials, be included?

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.

Modify proposal as follows:

404.2 Where required. An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.

1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an occupant load less than 2,000.
2. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
3. Group E.
4. Group F buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
5. through 14. (No change to current text)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The Code Development Committee approved this item on the basis that the Joint Fire Service Review Committee would return and provide some parameters and limitations on the application to F occupancies.

This Public Comment limits the application of these requirements to F occupancies with more than 500 occupants, or F occupancies with more than 100 occupants above or below the level of exit discharge.

Consideration was given as to whether F-2 should be included along with the F-1 occupancies. Based on the fact that IFC 907.2.4 requires a fire alarm to be installed in either an F-1 or an F-2 at the same threshold of 500 occupants or 100 above or below exit discharge, it was determined that same fire evacuation drill requirements would be appropriate. The F-2 will have a fire alarm installed at these levels, therefore, the occupants should be aware of their expected action when it activates.

Final Hearing Results

F60-07/08

AMPC

Code Change No: F61-07/08

Original Proposal

Sections: 404.1, 404.3.3 through 404.3.3.3 (New), 406.3.3 (New), 402.1 (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Revise as follows:

404.1 General. Fire safety, evacuation and lockdown plans and associated drills shall comply with the requirements of this section. The plans shall not conflict with other sections of this code.

2. Add new text as follows:

404.3.3 Lockdown plans. Where facilities develop a lockdown plan, the lockdown plan shall be in accordance with Sections 404.3.3.1 through 404.3.3.3.

404.3.3.1 Lockdown plan contents. Lockdown plans shall be approved by the fire code official and shall include the following:

1. Initiation. The plan shall include instructions for reporting an emergency that requires a lockdown.
2. Accountability. The plan shall include accountability procedures for staff to report the presence or absence of occupants.
3. Recall. The plan shall include pre-arranged signal for returning to normal activity.
4. Communication and coordination. The plan shall include an approved means of two-way communication between a central location and each secured area.
5. The plan shall be in accordance with the National Incident Management System and applicable state and federal laws or regulations.

404.3.3.2 Training frequency. The training frequency shall be included in the lockdown plan. The lockdown drills shall not substitute for any of the fire and evacuation drills required in Section 405.2.

404.3.3.3 Lockdown notification. The method of notifying building occupants of a lockdown shall be included in the plan. The method of notification shall be separate and distinct from the fire alarm signal.

406.3.3 Emergency lockdown training. Where a facility has a lockdown plan, employees shall be trained on their assigned duties and procedures in the event of an emergency lockdown.

(Renumber remaining sections)

3. Add new definition as follows:

402.1 Definition. The following word and term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

LOCKDOWN. An emergency situation requiring that the occupants be sheltered and secured in place within a building when normal evacuation would put occupants at risk.

Reason: Buildings are developing "lockdown" plans in response to security threats. This proposal will add requirements to the IFC on lockdown plans, lockdown drills and lockdown operations, not only in schools, but in all buildings where a lockdown plan is desired.

The code does not require a lockdown plan, however if a plan is to be developed, the plan must maintain the integrity of the egress system to an acceptable level. These lockdown plans include procedures for locking occupants into individual rooms within the building, and typically do not consider the impact of lockdowns on fire safety. This proposal is intended to establish the conditions for lockdown plans so that they will not decrease the level of life safety in the event of fires.

Many facilities are adopting procedures that can significantly affect fire safety, such as using the fire alarm system to signal a security emergency, locking doors with devices that prevent egress, and chaining exit discharge doors from the inside to prevent occupants from leaving the building. It is important that plans for security threats do not include procedures that result in violations of life safety and actually increase the hazard to the occupants.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

404.3.3.1 Lockdown plan contents. Lockdown plans shall be approved by the fire code official and shall include the following:

1. Initiation. The plan shall include instructions for reporting an emergency that requires a lockdown.
2. Accountability. The plan shall include accountability procedures for staff to report the presence or absence of occupants.
3. Recall. The plan shall include pre-arranged signal for returning to normal activity.
4. Communication and coordination. The plan shall include an approved means of two-way communication between a central location and each secured area.
5. ~~The plan shall be in accordance with the National Incident Management System and applicable state and federal laws or regulations.~~

Committee Reason: The proposal was approved because the committee felt that it is appropriate to provide a means for involving the fire code official in lockdown procedure planning that is currently being done but without fire service input. The modification recognizes that the NIMS is primarily a tool for emergency forces and deletes unclear language regarding other applicable laws. The committee also observed that the regulations could be improved by including the police and other interested and affected agencies and officials in the lockdown planning process. In addition, guidance should be provided on the "accountability procedures" and the "central location" in Sections 404.3.3.1(2) and 404.3.3.1(4), respectively, and providing applicable exceptions to compliance with other parts of the code in lieu of the new last sentence in Section 404.1.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Modified by this public comment.

Further modify proposal as follows:

404.1 General. Fire safety, evacuation and lockdown plans and associated drills shall comply with the requirements of this section. ~~The plans shall not conflict with other sections of this code.~~

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

402.1 Definition. The following word and term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

LOCKDOWN. An emergency situation, in other than a Group I-3 occupancy, requiring that the occupants be sheltered and secured in place within a building when normal evacuation would put occupants at risk.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This item was approved by the Code Development Committee with instruction to the Joint Fire Service Review Committee to return with some enhancements.

Specifically, the 2nd sentence of 404.1 is deleted. If the Lockdown Plan is conflicting with the code, it should not be approved.

The definition of lockdown is revised to eliminate the inclusion of detention facilities.

All of the revisions as a result of floor testimony and as requested by the committee have been included so that the IFC can now more efficiently evaluate lockdown plans as they become more commonplace across the country.

Final Hearing Results

F61-07/08

AMPC1

Code Change No: F62-07/08

Original Proposal

Section: 407.2

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing The Chlorine Institute

Revise as follows:

407.2 Material safety data sheets. Material Safety Data Sheets (MSDS) for all hazardous materials shall be either readily available on the premises as a paper copy, or where approved, shall be permitted to be readily retrievable by electronic access.

Reason: Use of electronic databases as a means to make MSDSs available is common all along the hazardous materials supply chain. This proposal seeks only to update the code to recognize this longstanding common practice.

The use of electronic means to handle MSDSs is a far more efficient method of keeping this material up to date, organized and readily accessible from many locations. It also makes the information electronically searchable and avoids the enormous administrative effort required to maintain paper copies MSDSs in binders or file cabinets duplicated at many sites.

To address concerns expressed by some individuals when a similar proposal was considered last cycle, such as power interruptions that might make MSDSs inaccessible at times, a condition of local approval has been added to limit the permissible use of electronic systems. With this addition, jurisdictions desiring hard copies on site will still have these, while jurisdictions desiring to permit electronic databases will have a means of encouraging such systems without requiring the owner to submit an alternate method proposal.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which is a response to the committee's request for alternative storage means in its disapproval of code change F37-06/07 in the last code development cycle.

Assembly Action:

None

Final Hearing Results

F62-07/08

AS

Code Change No: **F65-07/08**

Original Proposal

Section: 501.3

Proponent: Steven L. Schoon, Golder Ranch Fire District, Arizona Fire Marshals Association

Revise as follows:

501.3 Construction documents. Construction documents for proposed fire apparatus access, location of fire lanes, security gates across fire apparatus access and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.

Reason: Section 501.3 requires fire apparatus access to have construction documents submitted to the fire department for review and approval prior to construction. Section 503.6 requires the installation of security gates across a fire apparatus access road be approved by the fire chief. Adding the proposed language ties these two sections together and requires the security gate to have a construction document for the fire department to review. Furthermore, if a security gate was not on the original construction plans for the fire apparatus access, this new text reinforces that a security gate installed at a later time does require a construction plan to be submitted and approved prior to construction.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it is appropriate to give the fire code official important plan review information on the site security arrangements which could affect FD access. The committee observed that, since this section is applicable to proposed fire apparatus access, gates installed after the fire apparatus access is completed would not be subject to plan review.

Assembly Action:

None

Final Hearing Results

F65-07/08

AS

Code Change No: **F67-07/08**

Original Proposal

Section: 503.2.1, Appendix D103.1, D105.2

Proponent: Edwin M. Berkel, CFI, Mehlville Fire Protection District, representing himself

Revise as follows:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders. See Figure D103.1.

D105.2 Width. Fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The intent of the width requirements for fire apparatus access roads is that the all-weather surface capable of supporting the expected imposed loads of apparatus be applicable to the full 20 foot width of the road to provide space for fire apparatus to pass one another during fireground operations. The need to pass may occur when engines are parked for hydrant hookup or laying hose or when trucks are performing aerial ladder operations. Including adjacent road shoulders in the 20 foot width measurement could yield sub-standard and inadequate driving surfaces for apparatus. This proposal will make it clear that the shoulders are not to be included in the minimum fire apparatus access road width.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change which will provide for full-width, properly surfaced fire apparatus access roads.

Assembly Action:

None

Final Hearing Results

F67-07/08

AS

Code Change No: F68-07/08

Original Proposal

Section: 503.2.8 (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Add new text as follows:

503.2.8 Angles of approach and departure. The angles of approach and departure for fire apparatus access roads shall be within the limits established by the fire code official based on the fire department's apparatus.

Reason: The Angle of Approach is the angle between the ground and a line running from the bottom of the front tire to the lowest-hanging point directly in front of it, which is usually the front bumper. This angle gives an indication of how steep an incline the vehicle can clear when approaching that angle.

The Angle of Departure is the angle between the ground and a line running from the bottom of the rear tire to the lowest-hanging point directly behind it, which is usually the rear step. Similar to the approach angle, this angle indicates how steep an incline the vehicle can clear when departing from that angle.

Currently, no language exists in the IFC regarding angles of approach and departure. This design aspect of a fire apparatus access road is crucial to successful navigation by apparatus.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it is appropriate to provide the fire code official with a means of preventing road grades that might cause fire apparatus to get "hung up" along the entry grades and changing grades of fire apparatus roads. The proposal brings to light an important issue that is often overlooked in fire apparatus access road design.

Assembly Action:

None

Final Hearing Results

F68-07/08

AS

Code Change No: **F69-07/08**

Original Proposal

Section: 503.3

Proponent: Daniel Najera, University of California, Davis Fire Department, representing California Fire Chief's Association (CFCA)

Revise as follows:

503.3 Marking. Where required by the fire code official, approved signs or other approved ~~notices~~ markings that include the words NO PARKING - FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. ~~Signs or notices~~ The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

Reason: This code revision replaces the word "notices" with "marking" and adds the words "NO PARKING FIRE LANE". Marking is more consistent code language and is reflected in the title of this section. Notices is an ambiguous term that does not reflect permanency but allows for floating fire lanes and handed out paper notices. The existing language leaves too much room for interpretation that may not reflect the original intent of this section.

The addition of the words NO PARKING FIRE LANE assists the fire department, local law enforcement authority's and the judicial system in upholding fire lane enforcement. It is common code language that is easily understood and is commonly used in vehicle codes around the country.

This proposal does not mention size, color or material to be used for fire lane markings. It is understood by the word approved that fire lane markings have to be approved by the local authority having jurisdiction.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

503.3 Marking. Where required by the fire code official, approved signs or other approved notices and/or markings that include the words NO PARKING - FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

Committee Reason: The proposal was approved because the committee felt that it strengthens the section by clarifying the marking requirements and adds standard marking legend wording. The modification recognizes that there are times when notice with or without the markings may be appropriate.

Assembly Action:

None

Final Hearing Results

F69-07/08

AM

Code Change No: F70-07/08**Original Proposal****Sections: 503.5, 503.6, Appendix D103.5, Chapter 45 (New)****Proponent:** Joseph R. Hetzel, PE, Thomas Associates, Inc., representing Door & Access Systems Manufacturers Association**1. Revise as follows:**

503.5 Required gates or barricades. The fire code official is authorized to require the installation and maintenance of gates or other approved barricades across fire apparatus access roads, trails or other accessways, not including public streets, alleys or highways. Electric gate openers, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

503.6 Security gates. The installation of security gates across a fire apparatus access road shall be approved by the fire chief. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate openers, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

Appendix D103.5 Fire apparatus access road gates. Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. The minimum gate width shall be 20 feet (6096 mm).
2. Gates shall be of the swinging or the sliding type.
3. Construction of gates shall be of materials that allow manual operation by one person.
4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be approved by the fire code official.
6. Manual opening gates shall not be locked with a padlock or chain and padlock unless they are capable of being opened by means of forcible entry tools or when a key box containing the key(s) to the lock is installed at the gate location.
7. Locking device specifications shall be submitted for approval by the code official.
8. Electric gate openers, where provided, shall be listed in accordance with UL 325.
9. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

2. Add standards to Chapter 45 as follows:**ASTM**

ASTM F 2200-05 Standard Specification for Automated Vehicular Gate Construction

UL

UL 325-02 Door, Drapery, Gate, Louver, and Window Operators and Systems, with revisions through February, 2006

Reason: The purpose of the proposed code change is to provide requirements for automatic vehicular gates, which are not currently addressed in the Code.

The current Code provisions are inadequate because public safety needs are not addressed regarding automatic operation of vehicular gates. Protection is needed from potential entrapment of individuals between an automatically moving gate and a stationary object, or surface, in close proximity to such gate. Gates intended for automation require specific design, construction and installation to accommodate entrapment protection to minimize or eliminate certain excessive gate gaps, openings and protrusions identified as contributing to the hazard of entrapments that have historically caused numerous serious injuries and deaths.

The Code will be improved by including provisions referencing UL 325 and ASTM F 2200. UL 325 is an ANSI recognized safety standard containing provisions governing gate openers. Gate openers listed to the requirements of UL 325 provide the public with assurance that safety requirements have been met for such openers. ASTM F 2200 is a consensus document containing provisions governing the construction of vehicular gates intended for automation, and has been harmonized with the applicable provisions of UL 325.

Death and injury data does exist associated with automated vehicular gates. A previous related proposal on the topic, submitted in 2002 by the Consumer Product Safety Commission and designated as E34-02, pointed out the following information compiled by the CPSC from 1985 to that time:

1. Reports of 32 deaths relating to automatically operated vehicular gates were received, many as a result of entrapment between a moving gate and a stationary object.
2. Data from the National Electronic Injury Surveillance System estimated that approximately 2,000 people are treated annually in hospital emergency rooms due to injuries in such gates. Many of these injuries have been identified as serious, involving amputation, broken arms and broken legs.

With regard to security, both UL 325 and ASTM F 2200 make consideration for restricted access gates by recognizing gate openers and operators for such applications as a particular Class (IV) out of four different classifications.

Cost Impact: The code change proposal will increase the cost of construction. However, the resulting safety benefits will outweigh the increased cost.

Analysis: A review of the standards proposed for inclusion in the code, ASTM F 2200-05 and UL 325-02, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standards ASTM F2200-05 and UL 325-02 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Modified

Modify the proposal as follows:

503.5 Required gates or barricades. The fire code official is authorized to require the installation and maintenance of gates or other approved barricades across fire apparatus access roads, trails or other accessways, not including public streets, alleys or highways. Electric gate ~~openers~~ operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

503.6 Security gates. The installation of security gates across a fire apparatus access road shall be approved by the fire chief. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate ~~openers~~ operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

Appendix D103.5 Fire apparatus access road gates. Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. The minimum gate width shall be 20 feet (6096 mm).
2. Gates shall be of the swinging or the sliding type.
3. Construction of gates shall be of materials that allow manual operation by one person.
4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be approved by the fire code official.
6. Manual opening gates shall not be locked with a padlock or chain and padlock unless they are capable of being opened by means of forcible entry tools or when a key box containing the key(s) to the lock is installed at the gate location.
7. Locking device specifications shall be submitted for approval by the code official.
8. Electric gate ~~openers~~ operators, where provided, shall be listed in accordance with UL 325.
9. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

Committee Reason: The proposal was approved because the committee felt that it provides quality assurance and operational integrity requirements for gates in fire apparatus roads. The modification revises the term to be consistent with the terminology used in the referenced standard UL325.

Assembly Action:

None

Final Hearing Results

F70-07/08

AM

Code Change No: **F73-07/08**

Original Proposal

Sections: 504.3, 2703.8.3.4

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

504.3 Stairway access to roof. New buildings four or more stories in height ~~above grade plane~~, except those with a roof slope greater than four units vertical in 12 units horizontal (33.3 percent slope), shall be provided with a stairway to the roof. Stairway access to the roof shall be in accordance with Section 1009.12. Such stairway shall be marked at street and floor levels with a sign indicating that the stairway continues to the roof. Where roofs are used for roof gardens or for other purposes, stairways shall be provided as required for such occupancy classification.

2703.8.3.4 Fire-resistance rating requirements. The required fire-resistance rating for fire barriers shall be in accordance with Table 2703.8.3.2. The floor construction of the control area and the construction supporting the floor of the control area shall have a minimum 2-hour fire-resistance rating.

Exception: The floor construction of the control area and the construction supporting the floor of the control area is allowed to be 1-hour fire-resistance rated in buildings of Type IIA, IIIA and VA construction, provided that both of the following conditions exist:

1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1; and
2. The building is three stories or less in height ~~above grade plane~~.

Reason: The changes are proposed for consistency with the actions taken by the membership on Proposals G6-06/07-AS and G8-06/07-AMPC1. Refer to IBC (and IFC) Section 1009.11 in Proposal G8-06/07-AMPC1 for Section 504.3 on stairway access to the roof. Refer to IBC Section 414.2.4 in Proposal G6-06/07-AS for Section 2703.8.3.4 on control areas.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide better correlation of the IFC with the IBC in measuring the height of buildings.

Assembly Action:

None

Final Hearing Results

F73-07/08

AS

Code Change No: **F78-07/08**

Original Proposal

Sections: 507.4 (New), 502.1 (New)

Proponent: Scott Poster, Fire Department, Los Angeles County, CA

Add new text as follows:

507.4. Structures and outdoor storage underneath high-voltage transmission lines. Structures and outdoor storage underneath high-voltage transmission lines shall comply with Section 507.4.1 and 507.4.2.

507.4.1 Structures. Structures shall not be constructed within the utility easement underneath high-voltage transmission lines.

Exception: Restrooms and unoccupied telecommunication structures of non-combustible construction less than 15 feet in height.

507.4.2 Outdoor storage. Outdoor storage within the utility easement underneath high-voltage transmission lines shall be limited to noncombustible material. Storage of hazardous materials including, but not limited to, flammable and combustible liquids is prohibited.

Exception: Combustible storage, including vehicles, is allowed provided that a plan indicating the storage configuration is submitted and approved.

502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

HIGH-VOLTAGE TRANSMISSION LINE. An electrical power transmission line operating at or above 66 kilovolts

Reason: Structure fires underneath high-voltage transmission lines could cause arcing and shock hazard. Firefighting operations involve the use of elevated aerial apparatus and other emergency equipment, personnel aboveground and hose streams that may come in close proximity to high-voltage transmission lines. According to nationally recognized utility companies, manual de-energization of lines may take 20 minutes or longer to accomplish. A history of problems with structure fires underneath high voltage lines does not exist, due to the fact that the utility companies have set internal policies that until recently allowed only low-intensity use of the property underneath high-voltage transmission lines.

From NIOSH Hazard ID #15, January 2002, Firefighters Exposed to Electrical Hazards During Wildland Fire Operations "Dense smoke can obscure energized electrical lines or equipment and can become charged and conduct electrical current."

From Bonneville Power Administration, Living and Working Safely Around High Voltage Power Lines p.7, 2001, DOE/BP-1821, "Smoke and hot gases from a large fire can create a conductive path for electricity. When a fire is burning under a transmission line, electricity could arc from the conductor to the ground, endangering people and objects near the arc"

From SP-Ausnet, Corporate Communications Team, Melbourne, Victoria. "Excessive exposure to "electric fields" and "magnetic fields" is deemed harmful to humans or animals. Powerlines are designed such that the electric and magnetic fields at ground level and at the boundaries of easements are kept within these standards. If one was to change the conditions on the ground under a high voltage line, such as building a structure or raise the ground level, etc. then the persons in the vicinity of these higher levels are exposed to higher than accepted electric and magnetic fields. It should be noted that the effect of these fields are proportional to the field strength as well as the duration of exposure."

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

315.4 Storage underneath high-voltage transmission lines. Storage located underneath high-voltage transmission lines shall be in accordance with Section 507.4.

(Portions of the proposal not shown remain unchanged)

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Committee Reason: The proposal was approved because the committee felt that it will provide enhanced firefighter safety when working on incidents underneath high-voltage transmission lines. The modification provides a needed cross-reference to the provisions from a new section in the combustible storage section in Chapter 3.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Robert J. Davidson, Davidson Code Concepts, LLC, representing Plug Power, Inc., requests Approval as Modified by this public comment.

Further modify proposal as follows:

507.4.2 Outdoor storage. Outdoor storage within the utility easement underneath high-voltage transmission lines shall be limited to noncombustible material. Storage of hazardous materials including, but not limited to, flammable and combustible liquids is prohibited.

Exception: Combustible storage, including vehicles, and fuel storage for back up power equipment servicing public utility equipment is allowed provided that a plan indicating the storage configuration is submitted and approved.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The restrictions the fire code committee added by their acceptance of F78-07/08 are a good addition to the code that will address a potential hazard to firefighters. However, as currently approved the new code language will conflict with a need to provide fuel for back up power supplies for critical public utility equipment installations. Some of this equipment involves telecommunications equipment that emergency services rely on for communication. The modification contained within this proposal is intended to address that issue.

Some equipment installations that are located upon the utility easement underneath high-voltage transmission lines, such as the telecommunication structures permitted by the exception to Section 507.4.1, require back up power supplies. Many of the back up power installations require liquid or gaseous fuel storage and the new code language currently accepted by the fire code committee would prohibit the fuel supply from being located on the utility easement.

This proposed modification of Section 507.4.2 would allow the fuel for back up powers supplies to be located on the utility easement, however, it would limit the fuel to only that necessary for equipment servicing public utility equipment and subject to the approval of the fire code official allowing the fire service to maintain control over the installations.

Final Hearing Results

F78-07/08

AMPC

Code Change No: F84-07/08

Original Proposal

Sections: 509.1 (IBC [F] 911.1)

Proponent: Ken Kraus, Fire Department, Los Angeles, CA

Revise as follows:

509.1 (IBC [F] 911.1) (Supp) Features. Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of 96 250

square feet (~~9~~ 23 m²) with a minimum dimension of ~~8~~ 10 feet (~~2438~~ 3048 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighters control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Elevator fire recall switch in accordance with ASME A17.1.
17. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

Reason: This proposal is intended to increase the minimum size of the Fire Command Center to a size and configuration that is conducive to effective use of the facility by emergency responders.

The current minimum requirement for the size of a Fire Command Center is impractical. Fire Command Centers (FCC) not only need to be designed to accommodate a significant number of emergency responders wearing full personal protective equipment. FCC's are also used to review building emergency plans during incidents, co-locate decision makers within the Incident Command System (ICS) and interpret fire protection system information. Given the multiple uses of the FCC, it is extremely likely that the limitations of a 10' by 10' room would serve to compromise the effectiveness of Incident management.

The current minimum size has proven in both exercise and emergency incident scenarios to be too small and confining.

A minimum size of 250 square feet allows for the necessary personnel to effectively perform the required tasks associated with a Fire Command Center.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:
Approved as Modified
Modify the proposal as follows:

509.1 (IBC [F] 911.1) (Supp) Features. Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of ~~250~~ 200 square feet (~~23~~ 19 m²) with a minimum dimension of 10 feet (3048 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

(Features 1 through 17 are unchanged)

Committee Reason: The proposal was approved because the committee felt that it will provide additional working room for the fire command staff who will occupy the fire command center. The modification provides a more reasonable working size for the fire command center.

Assembly Action:
None

Final Hearing Results

F84-07/08
AM

Code Change No: **F85-07/08**

Original Proposal

Sections: 509.1 (IBC [F] 911.1)

Proponent: Lawrence G. Perry, AIA, representing Building Owners and Managers Association International (BOMA)

Revise as follows:

509.1 (IBC [F] 911.1) (Supp) Features. Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of 96 square feet (9 m²) with a minimum dimension of 8 feet (2438 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighter=s control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access, and the location of fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions.
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Elevator fire recall switch in accordance with ASME A17.1.
17. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

Reason: This proposal will add additional information to first responders in buildings having fire command centers. It will require that the schematic building plans, which are already required, include the location of fire walls, fire barriers, fire partitions, smoke barriers, and smoke partitions. BOMA believes this is a far better method of providing this information to fire inspectors and responding fire fighters than providing stencils or stickers on walls throughout the building. BOMA has submitted a separate proposal to delete the requirement for marking of rated walls (newly added to Section 703.6 of the IBC).

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide the emergency operations commander with needed information in a convenient location at little or no cost.

Assembly Action:

None

Final Hearing Results

F85-07/08

AS

Code Change No: **F87-07/08**

Original Proposal

Sections: 511 (New), 907.2.12.2 (IBC [F] 907.2.12.2), Appendix I (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Add new text as follows:

SECTION 511 **EMERGENCY RESPONDER RADIO COVERAGE**

511.1 Emergency responder radio coverage in new buildings. All new buildings shall have approved radio coverage for emergency responders within the building.

511.2 Emergency responder radio coverage in existing buildings. Existing buildings that do not have approved radio coverage for emergency responders within the building shall be equipped with such coverage within 18 months of receiving notice of such deficiency from the fire code official.

2. Revise as follows:

907.2.12.2 (IBC [F] 907.2.12.2) (Supp) Fire department communication system. An approved ~~two-way, fire department communication emergency responder radio coverage system designed and installed in accordance with NFPA 72~~ shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. ~~The fire department communication device shall be provided at each floor level within the enclosed exit stairway.~~

Exception: Fire department radio systems where approved by the fire department.

3. Add new appendix as follows:

APPENDIX I **EMERGENCY RESPONDER RADIO COVERAGE**

SECTION I101 **GENERAL**

I101 Scope. Systems, components, and equipment required to provide emergency responder radio coverage shall be in accordance with this appendix.

I101.1 Permit. A construction permit is required for installation of or modification to emergency responder radio coverage systems and related equipment. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

SECTION I102 **DEFINITIONS**

I102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

AGENCY. Any emergency responder department within the jurisdiction that utilizes radio frequencies for communication. This could include, but not be limited to, various public safety agencies such as fire department, emergency medical services and law enforcement.

SECTION I103 **TECHNICAL REQUIREMENTS**

I103.1 Radio signal strength. The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 90 percent of all areas on each floor of the building meet the signal strength requirements in Sections I103.1.1 and I103.1.2.

I103.1.1 Minimum signal strength into the building. A minimum signal strength of -95 dBm shall be receivable within the building.

I103.1.2 Minimum signal strength out of the building. A minimum signal strength of -100 dBm shall be received by the agency's radio system when transmitted from within the building.

I103.2 System design. The emergency responder radio coverage system shall be designed in accordance with Sections I103.2.1 through I103.2.5.

I103.2.1 Amplification Systems Allowed. Buildings and structures which cannot support the required level of radio coverage shall be equipped with a radiating cable system, a distributed antenna system with FCC certified signal boosters, or other system approved by the fire code official in order to achieve the required adequate radio coverage.

I103.2.2 Technical criteria. The fire code official shall maintain a document providing the specific technical information and requirements for the emergency responder radio coverage system. This document shall contain, but not be limited to, the various frequencies required, the location of radio sites, effective radiated power of radio sites, and other supporting technical information.

I103.2.3 Secondary power. The emergency responder radio coverage system shall be equipped with a secondary source of power. The secondary source of power shall be either a battery system or an emergency generator. The secondary power supply shall supply power automatically when the primary power source is lost. The secondary source of power shall be capable of operating the emergency responder radio coverage system for a period of at least twelve hours.

I103.2.3.1 Battery Systems. The active components of the installed system or systems shall be capable of operating on an independent battery system for a period of at least twelve hours without external power input. The battery system shall automatically charge in the presence of external power input.

I103.2.4 Signal Booster requirements. If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in a NEMA4 type water proof cabinet.
2. The battery system shall be contained in a NEMA4 type water proof cabinet.
3. The system shall include automatic alarming of malfunctions of the signal booster and battery system. Any resulting trouble alarm shall be automatically transmitted to an approved central station or proprietary supervising station as defined in NFPA 72 or, when approved by the fire code official, shall sound an audible signal at a constantly attended location.
4. Equipment shall have FCC Certification prior to installation.

I103.2.5 Additional frequencies and change of frequencies. The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC.

I103.3 Installation requirements. The installation of the public safety radio coverage system shall be in accordance with Sections I103.3.1 through I103.3.5.

I103.3.1 Approval prior to installation. No amplification system capable of operating on frequencies licensed to any public safety agency by the FCC shall be installed without prior coordination and approval of the fire code official.

I103.3.2 Permit required. A construction permit as required by Section 105.7.11 shall be obtained prior to the installation of the emergency responder radio coverage system.

I103.3.3 Minimum qualifications of personnel. The minimum qualifications of the system designer and lead installation personnel shall include:

1. A Valid FCC issued General Radio Operators License, and
2. Certification of in-building system training issued by a nationally recognized organization, school or a certificate issued by the manufacturer of the equipment being installed.

The agency may waive these requirements upon successful demonstration of adequate skills and experience satisfactory to the fire code official.

I103.3.4 Acceptance test procedure. When an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to ensure that two-way coverage on each floor of the building is a minimum of 90 percent. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal areas.
2. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the agency talking through the agency's radio communications system.
3. A maximum of two nonadjacent areas will be allowed to fail the test.
4. In the event that three of the areas fail the test, in order to be more statistically accurate, the floor may be divided into 40 equal areas. A maximum of four nonadjacent areas will be allowed to fail the test. If the system fails the 40-area test, the system shall be altered to meet the 90 percent coverage requirement.
5. A test location approximately in the center of each grid area will be selected for the test, then the radio will be enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire area. If the test fails in the selected test location, that grid area shall fail, and prospecting for a better spot within the grid area will not be allowed.
6. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner will be required to rerun the acceptance test to reestablish the gain values.
7. As part of the installation a spectrum analyzer or other suitable test equipment shall be utilized to insure spurious oscillations are not being generated by the subject signal booster. This test will be conducted at time of installation and subsequent annual inspections.

I103.3.5 FCC compliance. The emergency responder radio coverage system installation and components shall also comply with all applicable Federal regulations, including but not limited to, Federal Communications Rules (47 CFR 90.219).

I103.4 Maintenance. The emergency responder radio coverage system shall be maintained in accordance with Sections I103.4.1 through I103.4.5.

I103.4.1 Maintenance. The public radio coverage system shall be maintained operational at all times.

I103.4.2 Permit required. A permit as required by Section 105.7.4 shall be obtained prior to the modification or alteration of the emergency responder radio coverage system.

I103.4.3 Testing and proof of compliance. The emergency responder radio coverage system shall be inspected and tested annually or whenever structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following:

1. In-building coverage test as described in Section I103.3.4.
2. Signal boosters shall be tested to ensure that the gain is the same as it was upon initial installation and acceptance.
3. Backup batteries and power supplies shall be tested under load of a period of one hour to verify that they will properly operate during an actual power outage. If within the one hour test period the battery exhibits symptoms of failure, the test shall be extended for additional one hour periods until the integrity of the battery can be determined.
4. All other active components shall be checked to verify operation within the manufacturer's specifications.
5. At the conclusion of the testing a report shall be submitted to the fire code official which shall verify compliance with Section I103.3.4.

I103.4.4 Additional frequencies. The building owner shall modify or expand the emergency responder radio coverage system at their expense in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section.

I103.4.5 Field testing. Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field-testing to verify the required level of radio coverage.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: Large buildings have historically provided barriers to radio communications within them. This is the reason high rise buildings are required to install hard wired, two-way communications systems. The typical system has phone jacks strategically located throughout the building (in stairways, elevator lobbies, and inside elevators), with hand sets available to emergency responders in the lobby or the fire control room. However, problems with this solution include:

- Handset availability – even if they don't get stolen or misplaced, the typical building will only have five handsets, far too few for the dozens to hundreds of firefighters required to successfully bring a high rise fire under control
- Lack of training for responders – while some fire departments routinely train on these systems, each one is different, presenting problems remembering the special considerations necessary to operate successfully in each high rise building; other responders (law enforcement, EMS) don't train on these systems at all, and many times don't even know they exist
- Buildings other than high-rise interfere with routine radio communications, but aren't required to provide an alternative.

When this requirement was implemented, it was the best alternative available. Now, technology has progressed to a point where there are multiple solutions with multiple technologies to address virtually any situation. These solutions support emergency responders' radio systems so that no additional training is required by the responders; the same communication system that they use every day can be used in any building in a jurisdiction.

Emergency response agencies use radio communications routinely and lives depend on the adequacy of the radio communication system. Communications must be able to go both into and out of the buildings in times of emergency. Whether it be someone inside the building requesting assistance, or even worse calling May Day, or the Incident Commander outside the building trying to obtain a status report to make a determination on deployment of additional resources, communications is critical.

Some will complain of the cost of these systems, which range from the relatively inexpensive to very expensive, depending upon the solution chosen by the building owner or developer (one estimate is from \$.40/ft to \$1.25/ft). The fact is that tax payers have invested billions of dollars in their public safety communications systems. It isn't unusual for a mid-size jurisdiction to spend millions of dollars to equip emergency responders with communications systems, only to have a developer construct a building that defeats the entire system inside their facility. Good public policy dictates that these owners/developers bear the cost of upgrading their facilities to allow emergency responders to utilize the tools that tax payers have provided. This is in keeping with the philosophy inherent in the I-Codes that, when a facility grows too large or complex for effective fire response, that fire protection features be provided within the building at the owner's expense.

This proposal provides that an adequate level of communication is available within the building. Once a deficiency is noted in a building, the installation and technical criteria in Appendix I can be utilized to design and install a system to enhance the radio communications. There are several types of systems that can be utilized to enhance radio traffic and under this proposal any of these systems can be used.

This proposal also includes existing buildings in Section 511.2. While modeling and other techniques may provide a good prediction as to whether a building will interfere with radio communications, the reality is that it is unknown if a building will need to install any type of radio system enhancements until after the building is constructed. These issues are dependent on the construction type, shadows of other buildings, size of structure, etc. This proposal includes existing structures so that once the building is built, the system can be installed at any time, when and if it becomes necessary; it also provides a reasonable amount of time for existing buildings to come into conformance (18 months after notification).

The proposed Appendix I includes design, construction, maintenance and testing criteria. This provides guidance to the code official and ensures that the emergency responder radio coverage system will be operational throughout the life of the building.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it has merit and would resolve a serious and long-standing issue in fire department operational efficiency and safety. The committee indicated, however, that there are substantial issues which need to be resolved, including, but not limited to: applicability to "all" buildings would be unreasonable; the application to existing buildings would be onerous; there is no exception for single family residences; deleting the fire department communications system would eliminate a useful backup system; the title phrase "emergency responder" could lead to demands for other municipal departments that use radios to be provided with such a system; and technical requirements should not be relegated to an appendix. The committee expressed its hope that the continuing work on this topic by the ICC Code Technology Committee and the JFSRC would resolve the concerns.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Paul K. Heilstedt, PE, FAIA, Chair, ICC Code Technology Committee, (CTC), requests Approval as Modified by this public comment.

Tom Lariviere, Chair, ICC Joint Fire Service Review Committee (JFSRC), requests Approval as Modified by this public comment.

John Dean, representing the National Association of State Fire Marshals (NASFM), requests Approval as Modified by this public comment.

Sean DeCrane, representing the International Association of Fire Fighters (IAFM), requests Approval as Modified by this public comment.

Jack Murphy, representing the Fire Safety Directors of Greater New York, requests Approval as Modified by this public comment.

Modify proposal as follows:

511.1 Emergency responder radio coverage in new buildings. All new buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

Exceptions:

1. Where approved by the building code official and the fire code official, a wired communication system shall be permitted to be installed or maintained in lieu of an approved radio coverage system.
2. Where it is determined by the fire code official that the radio coverage system is not needed.

511.2 Radio signal strength. The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal strength requirements in items 511.2.1 and 511.2.2.

511.2.1 Minimum signal strength into the building. A minimum signal strength of -95 dBm shall be receivable within the building.

511.2.2 Minimum signal strength out of the building. A minimum signal strength of -100 dBm shall be received by the agency's radio system when transmitted from within the building.

~~511.2-511.3~~ Emergency responder radio coverage in existing buildings. Existing buildings that do not have approved radio coverage for emergency responders within the building shall be equipped with such coverage according to one of the following: within 18 months of receiving notice of such deficiency from the fire code official.

1. Wherever existing wired communication system cannot be repaired or is being replaced, or where not approved in accordance with Section 511.1 Exception 1.
2. Within a time frame established by the adopting authority.

907.2.12.2 (IBC [F] 907.2.12.2) (Supp) Fire department communication system. ~~An approved emergency responder radio coverage system shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. Where a wired communications system is approved in lieu of a radio coverage system in accordance with section 511, the wired fire department communications systems shall be designed and installed in accordance with NFPA 72 and shall operate between a fire command center complying with Section 509, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed exit stairway.~~

APPENDIX I EMERGENCY RESPONDER RADIO COVERAGE

SECTION I103 TECHNICAL REQUIREMENTS

~~I103.1 Radio signal strength.~~ ~~The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 90 percent of all areas on each floor of the building meet the signal strength requirements in Sections I103.1.1 and I103.1.2.~~

~~I103.1.1 Minimum signal strength into the building. A minimum signal strength of -95 dBm shall be receivable within the building.~~

~~I103.1.2 Minimum signal strength out of the building. A minimum signal strength of -100 dBm shall be received by the agency's radio system when transmitted from within the building.~~

(Renumber subsequent sections.)

(Portions of Appendix I of the proposal not shown remain unchanged.)

Commenter's Reason: The CTC also proposed a code change to address repeaters in F171 – 07/08. The CTC prefers F87 and has worked with the proponent in developing a public comment to clarify the provisions for new and existing buildings.

511.1: This section has been clarified to note that the existing coverage levels at the building (not in the building) need not be upgraded as a result of the need for coverage in the building. The purpose of the radio coverage in the building is to take the existing signal outside the building and amplify it. The exceptions provide an option for wired systems as an alternative and also if it is determined by the fire code official that emergency coverage is not needed, then it need not be provided. Obviously, both of these exceptions will require that the code official be consulted by the design professional.

There are two reasons for leaving an exception for the wired systems. One is because some fire service representatives have asked for the option to be there so they can make the decision whether or not to deal with the radio repeater system. Note that it is not automatically available, only if approved, so in your jurisdiction you won't have to approve it. The other reason for the wired option is because there are situations where you cannot solve the problem with radio repeater technology because the space is designed to prevent any radio waves from getting in or out, (lead shielding for example), in those cases the ability will exist for the local code officials to approve, (actually to require as well), a wired system if they agree it is the proper method for that space.

511.2: The provisions for signal strength are viewed as critical and need to be uniformly applied. As such, they have been relocated from the proposed appendix and incorporated into the body of the code.

511.3: There is clearly a need for existing buildings to be provided with coverage. However, requiring an existing wired system to be updated within 18 months when the system is operational or can be repaired is viewed as excessive. Further, an 18 month threshold is rather arbitrary and really should be left up to the adopting authority to decide the time frame for compliance for existing buildings.

907.2.12.2: This comment is intended to clarify where wired systems are provided and approved, it can be used in lieu of a radio system and provides the technical language concerning how the system is to be installed.

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April/2005, the CTC has held fifteen meetings - all open to the public. This public comment is a result of the CTC's investigation of the area of study entitled "NIST World Trade Center Recommendations". The CTC web page for this area of study is: <http://www.iccsafe.org/cs/cc/ctc/WTC.html>

Final Hearing Results

F87-07/08

AMPC1

Code Change No: F89-07/08

Original Proposal

Sections: 604.2.15.1.3, 604.2.15.3, IBC [F] 403.10.2, IBC [F] 403.11.1

Proponent: James C. Gerren, Clark County, NV Department of Development Services

1. Revise as follows:

604.2.15.1.3 Connected facilities. Power and lighting facilities for the fire command center and elevators specified in Sections 403.8 and 403.9 of the *International Building Code*, as applicable, ~~and electrically powered fire pumps required to maintain pressure,~~ shall be transferable to the standby source. Standby power shall be provided for at least one elevator to serve all floors and be transferable to any elevator.

604.2.15.3 Emergency systems. Exit signs, exit illumination as required by Chapter 10, electrically powered fire pumps required to maintain pressure, and elevator car lighting are classified as emergency systems and shall operate within 10 seconds of failure of the normal power supply and shall be capable of being transferred to the standby source.

Exception: Exit sign, exit and means of egress illumination are permitted to be powered by a standby source in buildings of Group F and S occupancies.

2. Revise IBC as follows:

[F] 403.10.2 Standby power loads. The following are classified as standby power loads:

1. Power and lighting for the fire command center required by Section 403.8; and
- ~~2. Electrically powered fire pumps; and~~
- ~~3.2.~~ Ventilation and automatic fire detection equipment for smokeproof enclosures.

Standby power shall be provided for elevators in accordance with Sections 1007.4 and 3003.

[F] 403.11.1 Emergency power loads. The following are classified as emergency power loads:

1. Exit signs and means of egress illumination required by Chapter 10;
2. Elevator car lighting;
3. Emergency voice/alarm communications systems;
4. Automatic fire detection systems; and
5. Fire alarm systems.
6. Electrically powered fire pumps.

Reason: The purpose of the proposed change is to clarify the code.

Section 9.6.2.1 of NFPA 20 (2003 edition), Standard for the Installation of Stationary Pumps for Fire Protection, requires on-site generators that are used to supply alternate power to electric motor-driven fire pumps to meet the requirements of Level 1, Type 10, Class X emergency power supply systems (EPSSs) of NFPA 110, Standard for Emergency and Standby Power Systems. NFPA 110 (2005 edition), Table 4.1(b) requires Type 10 EPSSs to restore power within 10 seconds. Since standby power is required to be available within 60 seconds, it is not appropriate to include electrically powered fire pumps in the list of standby power loads. Accordingly, the proposed code change would move electrically powered fire pumps from the list of standby power loads in Section 604.2.15.1.3 and IBC [F] 403.10.2 to the list of emergency power loads in Section 604.2.15.3 and IBC [F] 403.11.1.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide correlation with the referenced standard, NFPA 20.

Assembly Action:

None

Final Hearing Results

F89-07/08

AS

Code Change No: F91-07/08

Original Proposal

Section: 605.10

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

605.10 Portable, electric space heaters. Where not prohibited by other sections of this code, Pportable, electric space heaters shall ~~comply be permitted to be used in all occupancies other than Groups I-2 and I-5 in accordance~~ with Sections 605.10.1 through 605.10.4.

Exception: The use of portable electric space heaters in which the heating element cannot exceed a temperature of 212 degrees F. (100 degrees C.) shall be permitted in non-sleeping staff and employee areas in Groups I-2 and I-5 occupancies.

Reason: Currently the IFC allows portable space heaters to be located and used within Group I occupancies. This proposal will restrict their use within Group I-2 occupancies and also with Group I-5 occupancies (dependent on another code change to create the I-5).

These facilities have a higher life hazard which results in a longer evacuation time. Limiting the portable heater temperature will reduce the incidence of fire from these devices and therefore the evacuation never needs to occur. This proposal will also correlate the IFC requirements with Federal regulations for these facilities.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The reference in this proposal to new occupancy "Group I-5" is dependent on the action on Code Change G33-07/08. If that code change is not approved, the reference to "Group I-5" would be deleted from these sections.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide improved safeguards in the use of portable electric space heaters in certain Group I occupancies.

Assembly Action:

None

Analysis: The reference in this proposal to new occupancy “Group I-5” is dependent on the final action on Code Change G33-07/08 (D). If that code change is not approved, the reference to “Group I-5” would be deleted from these sections.

Final Hearing Results

F91-07/08

AS

Code Change No: F93-07/08

Original Proposal

Sections: 606.10.1.1, 606.10.2.2

Proponent: Jeffrey M. Shapiro, International Code Consultants, representing International Institute of Ammonia Refrigeration

Revise as follows:

606.10.1.1 Overpressure limit setpoint. Automatic crossover valves shall be arranged to automatically relieve excess system pressure to a lower pressure zone if the pressure in a high- or intermediate-pressure zone rises to within ~~15 psi (108.4 kPa)~~ 90 percent of the set point for emergency pressure-relief devices.

606.10.2.2 Overpressure in low-pressure zone. The lowest pressure zone in a refrigeration system shall be provided with a dedicated means of determining a rise in system pressure to within ~~15 psi (108.4 kPa)~~ 90 percent of the setpoint for emergency pressure-relief devices. Activation of the overpressure sensing device shall cause all compressors on the effected system to immediately stop.

Reason: Provides in increased safety buffer between activation of the EPCS and operation of a relief valve. Because of variances in operational tolerances among relief valves and because some relief valves may begin to seep at 90-percent of their rated operating pressure, it is appropriate to have the EPCS shut-down a system if system pressure rises to 90-percent of the relief valve set pressure. This further reduces the potential for any release from a system that has malfunctioned and overpressurized.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide an increased level of safety in refrigeration systems.

Assembly Action:

None

Final Hearing Results

F93-07/08

AS

Code Change No: **F94-07/08**

Original Proposal

Section: 606.13

Proponent: Jeffrey M. Shapiro, International Code Consultants, representing International Institute of Ammonia Refrigeration

Revise as follows:

606.13 Discharge location for refrigeration machinery room ventilation. Exhaust from mechanical ventilation systems serving refrigeration machinery rooms containing flammable, toxic or highly toxic refrigerants, other than ammonia, capable of exceeding 25 percent of the LFL or 50 percent of the IDLH shall be equipped with approved treatment systems to reduce the discharge concentrations of ~~flammable, toxic or highly toxic refrigerants~~ to those values or lower.

Reason: The origin of the requirement in IFC Section 606.13 to treat exhaust from machinery room ventilation systems dates back to the 1994 Uniform Mechanical Code (UMC). The requirement was added as part of a complete rewrite of the UMC chapter on mechanical refrigeration, and the entire substantiation for the new provision offered by the proponent of this change was "Gives specific machinery room ventilation requirements." No statistical, technical or anecdotal basis was offered to justify the additional controls on machinery room ventilation system discharge. Nevertheless, the entire rewrite, including this section, was eventually approved by the International Conference of Building Officials (ICBO) membership at the time, and the provisions were duplicated into the Uniform Fire Code (UFC).

Presumably, the basis to justify adding this new requirement to the Uniform codes might have been parity with the general hazardous materials regulations for toxic gases in UFC Article 80; however, because Article 80 never required ventilation treatment for local exhaust systems in areas where ammonia is stored or used (because ammonia is not classified by fire codes as a toxic hazardous material), it makes no sense for ammonia refrigeration regulations to be more restrictive than general hazardous materials regulations for the same material.

During the drafting process for the International codes, the requirement for treatment of machinery room ventilation was initially dropped when the UMC was merged into the International Mechanical Code (IMC) and the UFC was merged into the IFC. At the time, the goal was to make the IMC and the IFC consistent with provisions in ASHRAE 15, which is the American National Standards Institute (ANSI) recognized standard governing refrigeration system safety, and ASHRAE 15 does not contain any requirement for treatment of exhaust from machinery room ventilation systems.

In the public comment process affecting the final draft of the IFC, a proposal was made to reinstate some of the old UFC provisions into the IFC, and the requirement related to treatment of machinery room exhaust found its way back into the code. Nevertheless, designers and engineers indicate that it is only enforced occasionally.

It should be noted that refrigeration plants in the Central and Eastern portions of the U.S. were not required by the legacy codes previously used in those regions to provide ventilation treatment systems. Justification for requiring new plants in these areas to now be burdened with this requirement is not evident. Likewise, there is no apparent justification for maintaining this requirement elsewhere, given that there was no justification to support the requirement in the first place.

It is worth pointing out that in preparing this proposal, IIAR studied the complete database on releases associated with ammonia refrigeration on file with EPA, and no incident could be identified where ammonia from machinery room ventilation was the source of injuries or off-site consequences. Since treatment of ventilation systems is very uncommon, even in newer facilities, and older facilities tend to be where release incidents occur, it is unlikely that any facilities reflected in this favorable incident history had ventilation exhaust treatment systems. Also, it is noteworthy that the simple way of avoiding the requirement to provide machinery room exhaust treatment is to place refrigeration machinery outside of the building, where no such requirement applies. It makes no sense for the code to penalize the safer condition of putting machinery in an enclosure by requiring treatment of room exhaust when an outdoor installation is at greater risk of a release to atmosphere.

Cost Impact: The code change proposal will not increase the cost of construction and will likely reduce it.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide appropriate correlation with the ASHRAE 15 refrigeration standard.

Assembly Action:

None

Final Hearing Results

F94-07/08

AS

Code Change No: **F95-07/08**

Original Proposal

Section: 607.3 (New)

Proponent: Ed Donoghue, Edward Donoghue Associates, Inc.

Add new text as follows:

607.3 Fire service access elevator lobbies. Where fire service access elevators are required by Section 3007 of the *International Building Code*, fire service access elevator lobbies shall be maintained free of storage and furnishings.

Reason: In this specific proposal the focus is upon storage and furnishings within the fire service access elevator lobby. The fire service access elevator in high rise buildings over 120 feet above fire department vehicle access is a tool for fire fighters to enhance their ability to gain access to and undertake necessary staging activities in. Therefore, any obstructions located in lobbies associated with such elevators in the form of storage or furnishings, whether combustible or non-combustible, could hamper their ability to fully use such features. Prohibiting storage and furnishings in fire service access elevators also eliminates potential fire loads in such areas.

Background: As a result of the September 11, 2001 attacks on the World Trade Center, code provisions for emergency egress from tall buildings are being re-examined. There is renewed interest in the use of elevators for both occupant egress and fire fighters access. Therefore a Workshop on the Use of Elevators in Fires and Other Emergencies was held March 2-4, 2004, in Atlanta, Georgia. The workshop was cosponsored by American Society of Mechanical Engineers (ASME International), National Institute of Standards and Technology (NIST), International Code Council (ICC), National Fire Protection Association (NFPA), U.S. Access Board, and the International Association of Fire Fighters (IAFF).

The workshop focused on two general topics:

1. Use of Elevators by Fire fighters and
2. Use of Elevators by Occupants during Emergencies

To follow up on the ideas generated at the workshop, 2 task groups were formed; one for each topic. Their goals are:

- Review the suggestions from the Workshop on the Use of Elevators in Fires and other Emergencies.
- Develop a prioritized list of issues.
- Conduct a hazard analysis of the prioritized list of issues to see if there are any residual hazards.
- Draft code revisions for those issues that survive the process and the task group members still want addressed.

The membership of these task groups is broad and includes representatives from the elevator industry and manufacturers of devices such as fire alarms, the fire service, model codes and standards development organizations, and the accessibility community as well as fire protection engineers, architects and specialists in human factors and behavior. Since February 2005 the groups have each been conducting a hazard analysis on their assigned topic. The results of the hazard analysis focused upon the fire fighter needs are nearing completion.

The task group studied 16 different cases. In these cases a particular hazard followed by a cause/trigger was reviewed. The result of the hazard interacting with cause/trigger events may create a particular incident/effect. To address possible incident/effects corrective actions are proposed. Such corrective actions are then reviewed to see if they create any residual hazards. The hazard analysis then carries out each of the residual hazards with additional corrective actions until the hazard is mitigated. It is strictly a hazard analysis (i.e. not probabilistic) and certain assumptions were made such as a single fire start in a high rise building.

The code changes generated by this analysis are related both to the summary of corrective actions resulting from the hazard analysis and the existing language related to fire service access elevators placed into the 2007 supplement.

These proposals will work with the 2007 supplement requirements for fire service access elevators to address these concerns. It should be noted that the hazard analysis assumed a lobby to be directly connected with the fire service access elevator thus making the result of the analysis consistent with the philosophical approach found in the 2007 Supplement.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

607.3 Fire service access elevator lobbies. Where fire service access elevators are required by Section 3007 of the *International Building Code*, fire service access elevator lobbies shall be maintained free of storage and furnishings.

Committee Reason: The proposal was approved because the committee agreed that it is desirable to have a specific prohibition on storage in fire service access elevator lobbies in the code to increase the likelihood that the lobby will be fully available for fire department operations. The modification removes language that the committee felt could result in unreasonable and inconsistent interpretation and enforcement.

Assembly Action:

None

Final Hearing Results

F95-07/08

AM

Code Change No: **F98-07/08**

Original Proposal

Sections: 608.5.1, 608.5.2

Proponent: Stephen McCluer, APC-MGE

Revise as follows:

608.5.1 Nonrecombinant battery neutralization. For battery systems containing lead-acid, nickel-cadmium or other types of batteries with free-flowing electrolyte, the method and materials shall be capable of neutralizing a spill of the total capacity from the largest ~~lead-acid battery cell or block~~ to a pH between ~~7.0~~ 5.0 and 9.0.

608.5.2 (Supp) Recombinant battery neutralization. For VRLA or other types of sealed batteries with immobilized electrolyte, the method and material shall be capable of neutralizing a spill of 3.0 percent of the capacity of the largest ~~VRLA~~ cell or block in the room to a pH between ~~7.0~~ 5.0 and 9.0.

Exception: Lithium-Ion and Lithium Metal Polymer batteries shall not require neutralization.

Reason: The paragraph covers multiple battery types, but the neutralization is limited to only lead-acid batteries. Substitute "lead-acid battery" and "VRLA" with "cell or block," which covers single-cell and multi-cell containers.

Absolute neutral is pH 7.0. To accommodate both acidic (e.g., lead-acid) and basic or alkaline (e.g., nickel-cadmium), the requirement should be "neutralize a spill... to a pH of 7.0 plus or minus 2.0.

Institute of Electrical and Electronics Engineers Standard 1578, *Recommended Practice for Stationary Battery Electrolyte Spill Containment and Management* has been approved and is presently going through final editorial and printing process. It will be published in the fall of 2007 [prior to the next update of the IFC]. I do not have authorization to provide copies of the complete standard. The following paragraph applies: 4.2.2 Neutralization. Electrolyte can be acidic (for example, sulfuric acid inside a lead-acid battery) or basic (for example, potassium hydroxide inside a Ni-Cd battery). Neutralizer should be able to safely convert the electrolyte to a pH between 5.0 and 9.0

Cost Impact: The code change proposal will not increase the cost of construction beyond what is already required by the *International Fire Code*.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it captures when neutralization is needed and corrects a previous error regarding pH.

Assembly Action:

None

Final Hearing Results

F98-07/08

AS

Code Change No: F100-07/08

Original Proposal

Section: 608.6.3

Proponent: Stephen McCluer, APC-MGE

Revise as follows:

608.6.3 (Supp) Supervision. Mechanical ventilation systems where required by Section 608.6.1 and 608.6.2 shall be supervised by an approved central, proprietary, or remote station service or shall initiate an audible and visual signal at a constantly attended onsite location.

Reason: The requirement to monitor ventilation in cabinets per 608.6.2 implies that there is mechanical ventilation, even though 608.6.2 specifically permits a cabinet to be “naturally ventilated.” Monitoring natural ventilation is extremely difficult – if not impossible in some cases – and extremely expensive. The existing requirement effectively forces a huge burden on battery cabinet manufacturers to add mechanical ventilation systems, hydrogen detectors, or flow sensors, for little or no apparent improvement over existing methods. When this requirement was added to the IFC, the author presented no evidence to suggest that the existing designs are unsafe or do not work. This proposal would limit the monitoring requirement to only those battery cabinets that depend upon forced or mechanical ventilation.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will limit the monitoring requirement to only those cabinets that depend on mechanical ventilation.

Assembly Action:

None

Final Hearing Results

F100-07/08

AS

Code Change No: F103-07/08

Original Proposal

Section 701.1

Proponent: Wayne R. Jewell, Chair, Hazard Abatement in Existing Buildings Committee

Revise as follows:

701.1 Scope. The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction and requirements for enclosing floor openings and shafts in existing buildings. New construction or new floor openings in existing buildings shall comply with the *International Building Code*.

Reason: The addition of this language provides for clarity to separate the issue of the construction of new floor openings in existing buildings from the need to enclose existing floor openings in existing buildings, which is addressed by Section 704 Floor Openings and Shafts. The current language has had numerous questions if new construction for the enclosure of an existing floor can comply with the provisions of Section 704 or if they must comply with the requirements of the IBC. The proposed language will clarify the intent of the code

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the current text "New construction..." would include new floor openings in existing buildings, making the proposal redundant.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Wayne R. Jewell, Chair, Hazard Abatement in Existing Buildings Committee, requests Approval as Modified by this public comment.

Modify proposal as follows:

701.1 Scope. The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction and requirements for enclosing floor openings and shafts in existing buildings. ~~New construction buildings or~~ and new floor openings in existing buildings shall comply with the *International Building Code*.

Commenter's Reason: In its disapproval, the committee expressed concern that the proposal to specifically call out that new floor openings in existing buildings are required to comply with the IBC would be redundant. This is not the case because ICC staff has received a substantial number of calls for assistance on exactly this question. Without approval of the proposal it will remain unclear that the term 'new construction' applies not only to new buildings, but to the creation of new openings during the course of alterations to existing buildings. In order to remove any confusion, it is proposed to modify the language that was originally proposed.

Final Hearing Results

F103-07/08

AMPC

Code Change No: **F104-07/08**

Original Proposal

Section: 701.2 (New)**Proponent:** Wayne R. Jewell, Chair, Hazard Abatement in Existing Buildings Committee**Add new text as follows:**

701.2 Unsafe conditions. Where any components in this chapter are not maintained and do not function as intended or do not have the fire resistance required by the code under which the building was constructed, remodeled or altered such component(s) or portion thereof shall be deemed an unsafe condition, in accordance with Section 110.1.1. Components or portions thereof determined to be unsafe shall be repaired or replaced to conform to that code under which the building was constructed, remodeled, altered or this chapter, as deemed appropriate by the code official.

Where the extent of the conditions of components is such that any building, structure or portion thereof presents an imminent danger to the occupants of the building, structure or portion thereof, the fire code official shall act in accordance with Section 110.2.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The ICC Board approved the development of new code requirements in the I-Codes which address hazards, such as those from fire, as well as, the development of requirements relative to issues such as hazardous conditions due to structural issues. This would provide code requirements for all disciplines to be used by building owners to bring their existing building stock up to minimum standards and enforcing agencies when performing inspections of existing buildings. The Hazard Abatement of Existing Buildings Committee (HAEB) was formed to develop these requirements.

During this 07/08 cycle, the HAEB committee is proposing several unsafe conditions requirements for inclusion within the text of the existing International Codes, predominately the *International Property Maintenance Code* and the *International Fire Code*.

During last years code cycle there was concern expressed declaring that assemblies which were and are required to have a fire resistance rating and found to be in a condition that was less than that required were being called unsafe. Using the term unsafe is not new to the IFC as it is used in Section 110 Unsafe Buildings. This section of the code not only deals with "buildings" but also deals with unsafe conditions defined in Subsection 110.1.1 Unsafe Conditions. However, in reading that section the only element that is related to what is proposed here is the wording "or inadequate maintenance" which is then "deemed" to be unsafe. So we have accepted inadequate maintenance as unsafe but a condition that renders a fire resistant assembly non-functional is not unsafe.

It was expressed at the hearings that defining damaged or breached fire resistant rated assemblies as unsafe would force the evacuation of the entire building. That is a non-issue – Section 110.1 currently clearly states "*fire code official shall issue such notice or orders to remove or remedy the conditions as shall be deemed necessary in accordance with this section and shall refer the building to the building department for any repairs, alterations, remodeling, removing or demolition required.*" It is not automatic that an unsafe condition requires evacuation. It is possible that such a condition could exist that a building, structure or portion thereof does need to be evacuated until corrective actions are made, but these should be rare. What is mandated is that the fire code official issue a notice or order to rectify the conditions.

The new language of section 701.2 provides a basis of evaluating the conditions and determining a resource to determine the level of fire resistance that is required to be maintained. Again during the hearings comments were made about the lack of being able to know which code a building was constructed under and if that is not known how is this language to be applied. Well, all communities should have some record of when a building was constructed knowing what year it should be relatively easy to determine a published edition of the code that is close and prior to that year. To some this might seem like roulette, but it is better than trying to make a building constructed 30, 50 or 80 years ago comply with today's requirements that are sometimes based on alternatives, a different type of construction or fire protection systems being in place. If all else fails there is the exception for the Fire Code Official to work with the design professionals to resolve the issue. Currently, there is no direction on what to use as a basis for requirements for corrective actions, nothing is better than something?

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it resolves the concerns over unsafe buildings expressed in the committee's disapproval of similar code change F57-06/07 in the last cycle.

Assembly Action:

None

Final Hearing Results

F104-07/08

AS

Code Change No: F105-07/08

Original Proposal

Sections: 703.1, 107.2

Proponent: John C. Dean, National Association of State Fire Marshals (NASFM)

Revise as follows:

703.1 Maintenance. The required fire-resistance rating of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be visually inspected annually, properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

107.2 Inspection, testing and operation. Passive fire systems and equipment requiring periodic testing or operation to ensure maintenance shall be inspected, tested or operated as specified in this code.

Reason: Currently there is no requirement for fire-resistance-rated construction to be inspected. In many areas around the country there is no formal, organized inspection program in place and as such countless buildings go without ongoing inspections. The requirement to maintain and repair suggests that this has to occur if a situation is found to exist. Even in regulated occupancies, problems exist with various coatings and spray applied fire-resistant materials¹. Without any requirement to inspect these elements, conditions could exist for years before being noticed and repaired. This creates a false sense of security and puts building occupants at risk. The code has been formulated to require certain fire resistive features. It only stands to reason that these features should be periodically inspected to insure that they are, and remain, compliant for the life of the building.

¹ Findings from the *Initial Report of the Partnership for Safer Buildings*. The National Association of State Fire Marshals. March 2003. http://www.firemarshals.org/mission/catastrophic/initial_report.asp.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

703.1 Maintenance. The required fire-resistance rating of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be visually inspected by the owner annually, and properly repaired, restored or replaced when damaged, altered, breached or penetrated. Where concealed, such elements shall not be required to be visually inspected by the owner unless the concealed space is accessible by the removal or movement of a panel, access door, ceiling tile or similar movable entry to the space. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

107.2 Inspection, Testing and operation. ~~Passive fire systems and e~~ Equipment requiring periodic testing or operation to ensure maintenance shall be ~~inspected,~~ tested or operated as specified in this code.

Committee Reason: The proposal was approved because the committee felt that it provides for the periodic inspection of fire-resistance-rated construction. The modification clarifies who is to conduct the annual inspection and that permanently concealed elements are not expected to be inspected; Section 107.2 is also returned to the current text.

Assembly Action:

None

Final Hearing Results

F105-07/08

AM

Code Change No: F106-07/08

Original Proposal

Section: 703.1.2, Chapter 45 (New)

Proponent: Vickie J. Lovell, InterCode Incorporated, representing Air Movement and Control Association

1. Revise as follows:

703.1.2 (Supp) Smoke barriers and smoke partitions. Required smoke barriers and smoke partitions shall be maintained to prevent the passage of smoke. All openings protected with approved smoke barrier doors or smoke dampers shall be maintained in accordance with NFPA 105.

2. Add standard to Chapter 45 as follows:

NFPA

NFPA 105-07 Installation of Smoke Door Assemblies and Other Opening Protectives

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: NFPA fire data indicates that assemblies intended to contain smoke to the area of the fire's origin are sometimes compromised. Protective devices and products intended to protect openings permitted by the code can fail if they are not properly installed. They may also fail to operate satisfactorily due to poor or non-existent maintenance regimen if such maintenance is not regularly carried out and the records inspected for consistent compliance. NFPA 105 is in the building code in Section 715.4.3.1, requiring compliance for the installation of smoke doors. The scope of the document also includes maintenance and care requirements for smoke doors and smoke dampers.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard NFPA 105-07 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria (already referenced in the IBC).

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide a needed maintenance companion section to the IBC smoke barrier and smoke partition provisions.

Assembly Action:

None

Final Hearing Results

F106-07/08

AS

Code Change No: F107-07/08

Original Proposal

Section: 703.1.3

Proponent: Vickie J. Lovell, InterCode Incorporated, representing Air Movement and Control Association

Revise as follows:

703.1.3 (Supp) Fire walls, fire barriers and fire partitions. Required fire walls, fire barriers and fire partitions shall be maintained to prevent the passage of fire. All openings protected with approved doors or fire dampers shall be maintained in accordance with NFPA 80.

Reason: NFPA fire data indicates that fire –resistance rated assemblies, intended to contain a fire to the area of origin, are sometimes compromised. Protective devices and products intended to protect openings permitted by the code can also fail if they are not properly installed. They may also fail to operate satisfactorily due to poor or non-existent maintenance regimen if such maintenance is not regularly carried out and the records inspected for consistent compliance. NFPA 80 is already referenced in the building code for the installation of such opening protectives. The new scope of the document also includes maintenance and care requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved for consistency with the action on code change F106-07/08.

Assembly Action:

None

Final Hearing Results

F107-07/08

AS

Code Change No: **F114-07/08**

Original Proposal

Section: 801.1

Proponent: Jon Napier, Fire Department, City of Kent, WA, representing Washington State Building Code Council

Revise as follows:

801.1 Scope. The provisions of this chapter shall govern interior finish, interior trim, furniture, furnishings, decorative materials and decorative vegetation in buildings. Sections 803 through 808 of this code shall be applicable to existing buildings. Section 803 of the *International Building Code* and Sections 804 through 808 shall be applicable to new and existing buildings.

Reason: The intent of this change is to clarify which codes are to be used for new buildings and which ones are used for existing buildings. This chapter has been completely rewritten and while Section 803 of the IBC is referenced in Section 803.1, it should be included in the scope of the chapter to make it more clear to check the IBC for requirements for the application of interior finishes and interior trim. The change specifically identifies which sections are to be used only for existing buildings and which ones to use for new and existing buildings.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the current text adequately portrays the applicability of Chapter 8 to new and existing buildings.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jon Napier, Kent Fire Department, representing Washington State Building Code Council, requests Approval as Modified by this public comment.

Modify proposal as follows:

801.1 Scope. The provisions of this chapter shall govern interior finish, interior trim, furniture, furnishings, decorative materials and decorative vegetation in buildings. Existing buildings shall comply with Sections 803 through 808 of this code shall be applicable to existing buildings. New buildings shall comply with Sections 804 through 808 and Section 803 of the *International Building Code* and Sections 804 through 808 shall be applicable to new and existing buildings.

Commenter's Reason: The intent of this change is to clarify which codes are to be used for new and existing buildings. I have restructured the paragraph, since Palm Springs, so it is clearer for the code reader as to the requirements for each category of building. The change specifically identifies which sections are to be used only for existing buildings and which ones to use for new and existing buildings.

Final Hearing Results

F114-07/08

AMPC

Code Change No: F118-07/08

Original Proposal

Sections: 803.6.2, Chapter 45 (New)

Proponent: Marcelo M. Hirschler, GBH International

1. Revise as follows:

803.6.2 Compliance alternative. Expanded vinyl wall or ceiling coverings shall be allowed to comply with the requirements for textile wall or ceiling coverings in Section 803.5. When tested in accordance with ASTM E 84 or UL 723, test specimen preparation shall be in accordance with ASTM E 2404.

2. Add standard to Chapter 45 as follows:

ASTM

E 2404-07 Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Vinyl Wall or Ceiling Coverings to Assess Surface Burning Characteristics

Reason: This proposal recommends that a standard practice be referenced for testing textile wall and ceiling coverings and expanded vinyl wall and ceiling coverings in the Steiner tunnel test, ASTM E 84. The committee on fire standards, ASTM E05, developed a standard practice, entitled **Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Vinyl Wall or Ceiling Coverings to Assess Surface Burning Characteristics**, specifically for a mandatory way of preparing test specimens and mounting them in the tunnel. This replaces optional guidance on mounting methods found in the Appendix of ASTM E 84 and ensures testing consistency.

Cost Impact: The code change proposal should not increase the cost of construction.

Analysis: A review of the standard proposed for inclusion in the code, ASTM E 2404-07, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard ASTM E 2404-07 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide an appropriate standard reference for material test sample preparation.

Assembly Action:

None

Final Hearing Results

F118-07/08

AS

Code Change No: F119-07/08

Original Proposal

Sections: 803.8 (New), 802.1 (New), Chapter 45 (New)

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

1. Add new text and definition as follows:

803.8 Site-fabricated stretch systems. Where used as interior wall or interior ceiling finish materials, site-fabricated stretch systems shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or 803.1.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.

802.1 (Supp) General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

SITE-FABRICATED STRETCH SYSTEM. A system, fabricated on site and intended for acoustical, tackable or aesthetic purposes, that is comprised of three elements:

1. A frame constructed of plastic, wood, metal or other material used to hold fabric in place,
2. A core material (infill, with the correct properties for the application), and
3. An outside layer, comprised of a textile, fabric or vinyl, that is stretched taut and held in place by tension or mechanical fasteners via the frame.

2. Add standard to Chapter 45 as follows:

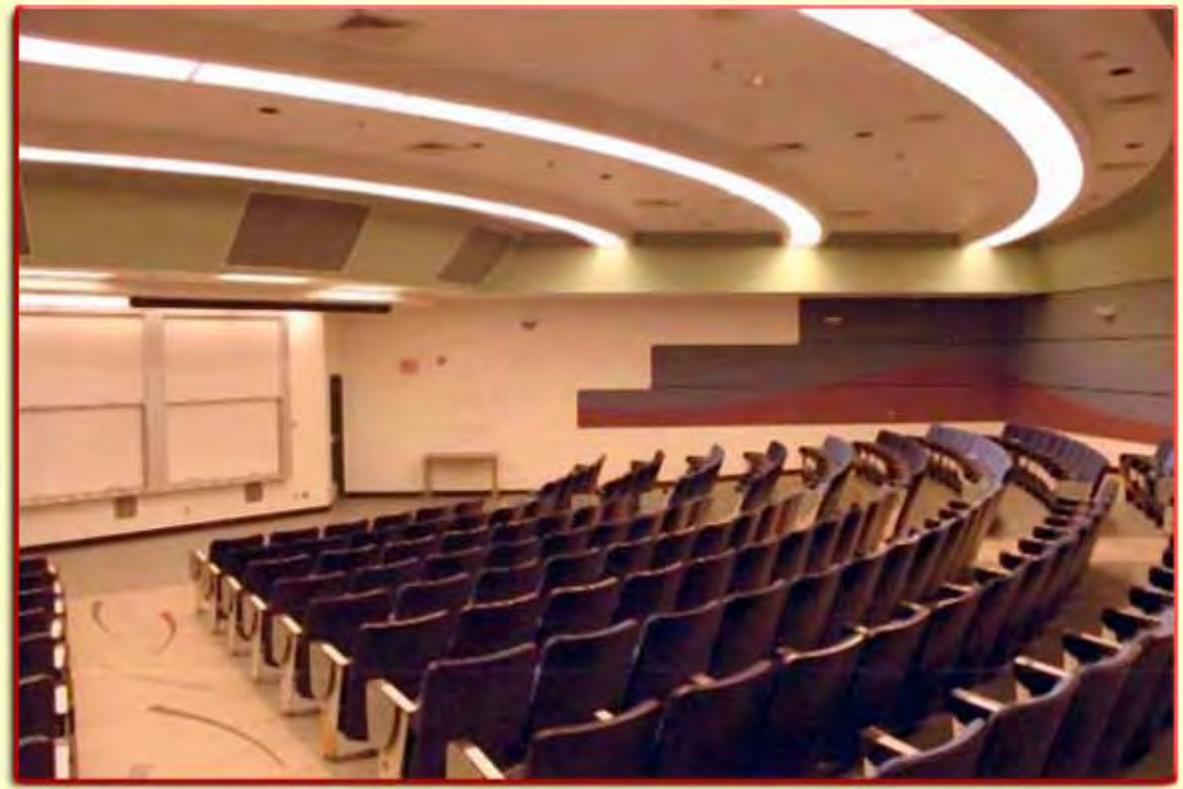
ASTM

E 2573-07 Standard Practice for Specimen Preparation and Mounting of Site-Fabricated Stretch Systems to Assess Surface Burning Characteristics.

Reason: The ASTM committee on fire standards, ASTM E05, has issued a standard practice, ASTM E 2573, Standard practice for specimen preparation and mounting of site-fabricated stretch systems. Until now there was no correct mandatory way to test these systems. These systems are now being used extensively because they can stretch to cover decorative walls and ceilings with unusual looks and shapes. The systems consist of three parts: a fabric (or vinyl), a frame and an infill core material. The testing has often been done of each component separately instead of testing the composite system. That is an inappropriate way to test and not the safe way to conduct the testing. Now that a consensus standard method of testing exists, the code should recognize it. The proposed definition was taken from the standard, ASTM E 2573, word for word.

This type of product is not exclusive to any individual manufacturer. Three examples, taken from different manufacturers, are shown as illustrations.





Cost Impact: The code change proposal should not increase the cost of construction.

Analysis: Similar requirements and definition are proposed for the *International Building Code* in code change proposal FS167-07/08.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that it would be unreasonable to apply a test for new materials retroactively. Previously approved curtain and drape material may have passed the E 84 test but might not pass the E 2573 test. If the intent is to apply to new materials, Section 803 is the wrong place to include it.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Bob Eugene, Underwriters Laboratories, Inc., requests Approval as Modified by this public comment.

Modify proposal as follows:

803.8 Site-fabricated stretch systems. Where used as newly installed interior wall or interior ceiling finish materials, site-fabricated stretch systems shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or 803.1.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The addition of the words "newly installed" respond to the Committee concern that the testing requirements would be applied retroactively to existing materials that may have passed the Steiner tunnel test, but may not pass the ASTM E2573 test.

After a further review of IFC Chapter 8, this location was deemed to be the most appropriate location. New construction would be regulated under IBC Chapter 8. Companion text was approved as submitted for the IBC in proposal FS167-07/08.

The ASTM committee on fire standards, ASTM E05, has issued a standard practice, ASTM E 2573, Standard practice for specimen preparation and mounting of site-fabricated stretch systems. Until now there was no correct mandatory way to test these systems. These systems are now being used extensively because they can stretch to cover decorative walls and ceilings with unusual looks and shapes. The systems consist of three parts: a fabric (or vinyl), a frame and an infill core material. The testing has often been done of each component separately instead of testing the composite system. That is an inappropriate way to test and not the safe way to conduct the testing. Now that a consensus standard method of testing exists, the code should recognize it for newly installed products. The proposed definition was taken from the standard, ASTM E 2573, word for word.

Final Hearing Results

F119-07/08

AMPC

Code Change No: F120-07/08

Original Proposal

Sections: 804.1; IBC [F] 806.5

Proponent: Douglas H. Evans, PE, Department of Development Services, Clark County, NV

1. Revise IFC as follows:

804.1 (Supp) Interior trim. Material, other than foam plastic, used as interior trim shall have a minimum Class C flame spread index and smoke-developed index, when tested in accordance with ASTM E 84, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling areas ~~in~~ to which it is ~~located~~ attached.

2. Revise IBC as follows:

[F] 806.5 (Supp) Interior trim. Material, other than foam plastic used as interior trim shall have a minimum Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the ~~aggregate~~ specific wall or ceiling area ~~in~~ to which it is ~~located~~ attached.

Reason: If one reads the code literally, 10 percent all the allowable decorative wall materials may be placed on a single wall, which may actually allow the quantity of decorative materials to exceed the size of a specific wall. The proposed revision limits the percentage of decorative material to the respective wall.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Modify the proposal as follows:

804.1 (Supp) Interior trim. Material, other than foam plastic, used as interior trim shall have a minimum Class C flame spread index and smoke-developed index, when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling areas to which it is attached.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved because the committee felt that it will provide better control of the fire load of interior finishes. The committee did express a concern that the retroactive provisions of the IFC should recognize that there may be previously approved applications based on the IBC's "aggregate" wall or ceiling area. The modification provides correlation with IBC Section [F] 806.5 and other sections that reference both ASTM E 84 and UL 723 as a result of the approval of code change FS11-06/07 in the last cycle.

Assembly Action:

None

Final Hearing Results

F120-07/08

AM

Code Change No: F121-07/08

Original Proposal

Sections: 804.2.3 (IBC [F] 2604.2.3)

Proponent: Douglas H. Evans, PE, Department of Development Services, Clark County, NV

Revise as follows:

804.2.3 (IBC [F] 2604.2.3) (Supp) Area limitation. The interior trim shall not constitute more than 10 percent of the specific wall or ceiling areas of a room or space to which it is attached.

Reason: First of all, the code is inconsistent. Sometimes it specifies walls and ceilings and sometimes walls or ceilings. This revision can be looked at partially as clarification.

Most importantly, imagine a 100,000 sq ft casino, convention center or ballroom with 30 foot high walls (this is not uncommon). Within the other limitations specified in this section, a substantial quantity of decorative foam plastic materials may be installed on a single wall or ceiling. For the 100,000 sq ft example specified, that could allow in excess of 13,000 sq ft of decorative combustible foam plastic "trim".

Cost Impact: The code change proposal will increase the cost of construction and should not affect most applications

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved as Submitted for consistency with the action taken on code change F120-07/08.

Assembly Action:

None

Final Hearing Results

F121-07/08

AS

Code Change No: F125-07/08

Original Proposal

Section: 805.3.1.2

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.3.1.2 (Supp) Heat release rate. Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537, as follows:

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

~~**Exception:** In Use Condition I, II and III occupancies, as defined in the *International Building Code*, upholstered furniture in rooms or spaces protected by approved smoke detectors that initiate, without delay, an alarm that is audible in that room or space.~~

2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 MJ.

Reason: This exception for a smoke detector in a detention occupancy cell should be deleted. The exception is still there because of incomplete proposals in the last cycle. The companion exception, in the section on mattresses, does not exist. Moreover, it makes no sense for an exception associated with an alarm sounding in the cell since the inmate cannot leave the cell even when notified of a fire. The upholstered furniture needs to meet the proper fire safety requirements. An exception for smoke detectors still exists for the patient's own furniture in the section on nursing homes and that is not addressed by this proposal.

Cost Impact: The code change proposal should not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it is inappropriate to maintain an exception for smoke detectors in occupancies where the occupants cannot escape without assistance.

Assembly Action:

None

Final Hearing Results

F125-07/08

AS

Code Change No: F126-07/08

Original Proposal

Section: 805.4.1.1

Proponent: Marcelo M. Hirschler, GBH International, representing American Fire Safety Council

Revise as follows:

805.4.1.1 (Supp) Ignition by cigarettes. Newly introduced upholstered furniture shall be shown to resist ignition by cigarettes as determined by tests conducted in accordance with NFPA 260 and shall meet the requirements for Class I one of the following:

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

1. Mocked-up composites of the upholstered furniture shall have a char length not exceeding 1.5 inches (38 mm) when tested in accordance with NFPA 261 or
2. The components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260.

Reason: This proposal brings consistency to the smoldering ignition requirements by allowing all upholstered furniture resistance to smoldering ignition testing to be conducted with either of the two tests, NFPA 260 or NFPA 261, in 805.4.1.1. All other occupancies covered already permit this option.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides for testing to NFPA 260 or NFPA 261, which is consistent with previous actions of the committee in allowing either standard to be used.

Assembly Action:

None

Final Hearing Results

F126-07/08

AS

Code Change No: **F127-07/08**

Original Proposal

Section: 807.1

Proponent: Philip M. Chandler, NY State Office of Fire Prevention and Control

Revise as follows:

807.1 General requirements. In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible.

Exceptions:

1. Curtains, draperies, hangings and other decorative materials suspended from walls of sleeping units and dwelling units in dormitories in Group R-2 protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.
2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.

In Groups I-1 and I-2, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorative materials are prohibited.

Fixed or movable walls and partitions, paneling, wall pads and crash pads, applied structurally or for decoration, acoustical correction, surface insulation or other purposes, shall be considered interior finish if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered decorative materials or furnishings.

In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 807.2 and NFPA 701 or shall be noncombustible.

Reason: It is well recognized that dormitories, especially those housing college students, present an elevated set of fire risk factors. Students often away from home for the first time, crowded conditions, experimentation with alcohol and controlled substances, smoking and use of candles and incense, not to mention a general feeling of invincibility of this age group, are all factors increasing the possibility of fire. Fire prevention experts have long recognized this fact and accordingly have worked to counter these risks with greater stringencies in the design, construction, maintenance and management of these occupancies. Section 807.1 of the IFC and its prohibition of combustible decorative materials not meeting the flame propagation standards of NFPA 701 in dormitories in Group R-2 is a good example. And not without good reason, as in the Chapel Hill fraternity fire and the Providence College fire of 1977 where ten students were killed, combustible interior trim and decorative materials were identified as playing a major role in the spread and development of the fire. (Comeau, Ed, "Campus Fire Safety," in, Cote, Arthur E. P.E., ed., *Fire Protection Handbook, Nineteenth Edition, Vol. 1*, Quincy, National Fire Protection Association, 2003: 5-99.)

Notwithstanding the above, in our zeal to prevent loss of life and limb, we have in fact gone overboard in our regulation of dormitory interior decoration. According to 807.1 college students are not allowed to post pictures of mom, team pennants, holiday cards, posters of Bob Dylan, you name it, on the walls of their own bedrooms. Nor can young coeds living at street level in inner city dormitories provide for their privacy and security by placing curtains over their windows. To be sure, no one is advocating that dormitory residents be allowed to cover every available inch of wall and ceiling with combustible materials that will most certainly enhance the growth and spread of any fire. Rather in the proposed addition of two exceptions to 807.1, we are attempting to balance the legitimate needs of dormitory residents to personalize their own spaces in accordance with their own individual tastes, preferences and privacy concerns with the over-arching need to provide for their life-safety.

In Exception 1, we are liberalizing the use of combustible materials on windows and walls only, excluding ceilings and the risk of drop-down fire spread. We allow only an amount sufficient to accommodate the real-world lifestyle of today's students. And in all cases we require the dormitories to be fully equipped with automatic sprinkler systems. For those institutions already sprinklered, we feel that this level of protection will adequately offset the relaxation of restrictions. To those institutions that have not yet sprinklered all of their existing dormitories, we feel that the market-driven need to deliver what their customers demand and can get elsewhere, will provide an added incentive to install sprinklers sooner than later. We feel strongly that sprinklers save lives.

In Exception 2, we provide for only the most basic level of personalization of dormitories. A level exactly the same as already allowed for residents of occupancies in Groups I-1 and I-2: alcohol and drug centers, half-way-houses, mental hospitals and detoxification centers, to name a few. Is it unreasonable to allow these residents the right to tack a photograph from home on the wall while denying the same right to homesick college students?

There are some that might argue that Exception 2 relies on an overly subjective assessment standard for establishing the acceptable limits of combustible decoration: Does it produce a risk of fire spread or not? They might prefer an arbitrarily set percentage of allowable combustibles as opposed to a more open-ended standard. However we in the code enforcement community have already adopted and embraced this criterion as evidenced by the language in 807.1 in regard to Groups I-1 and I-2. We as professionals are well equipped to determine if a fire hazard exists in a dormitory when dealing with such minute quantities of decorative materials without recourse to our slide rules and tape measures.

Apart from all that has been said above, consider one more reason to liberalize 807.1: its lack of practicality. If we are persistent in our efforts to enforce this provision as written, as many of us have been, seeking 100 percent compliance, we are more than likely to completely alienate students and institutional administrators as well. Fire prevention is accomplished through education as much as it is by code enforcement and engineering. If we are the ones that are seen as the grinch that stole freedom of personal expression and individuality, if we are the ones handing out fines for an American flag on the wall, our ability to get in front of students and faculty and positively influence their life-safety decisions will be severely compromised, and for what? A few scraps of paper or strips of cloth? There are laws, rules and regulations, that regardless of how well intended, are simply draconian in their impact. The cost of their enforcement is counter-productive and counter-intuitive to their purpose. Prohibition comes to mind. We feel that the proposed exceptions to 807.1 provide a more realistic and humane standard without putting the public at increased risk of harm by fire.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee expressed concerns over the lack of any apparent rationale for allowing the 50% coverage in Exception #1 and also whether such regulations might not be bordering on becoming a civil rights/freedom of speech issue. Additionally, it was felt that Exception #2 is too subjective and provides no guidance as to what "limited quantities" are, who is to make the determination that a fire spread hazard is not present or how the hazard might be analyzed and determined.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Philip M. Chandler, New York State Department, Office of Fire Prevention & Control, requests Approval as Submitted.

Commenter's Reason: The Committee identified three reasons for its disapproval of proposal [F127-07/08](#). These reasons are concern for possible infringement of constitutionally protected free speech, "lack of apparent rationale for allowing the 50 percent coverage in Exception #1," and the seemingly vague and overly subjective criteria of Exception #2.

The issue of free speech is in fact at the very heart of the proposed modification of IFC 807.1, as this code section itself threatens the First Amendment right of free speech. As currently written, all combustible decorations and hangings, including photographs, paintings, posters and for

that matter, American flags, are effectively prohibited, as very few of these items are noncombustible or meet the flame propagation performance criteria of NFPA 701. The proposed modifications of F127-07/08 are a remedy. It is a well accepted principle in American law that there can be life-safety issues that override First Amendment rights; even school children learn that maliciously “yelling fire in a crowded theatre” is not protected speech. However, we maintain that combustible decorations do not rise to such a risk threshold as to be banned entirely, only reasonably regulated.

With the above in mind, the 50 percent sprinkler allowance of Exception #1 should be seen as a numerically perfect and reasonable compromise between those asserting that all combustible decorations in dormitories present an over-arching threat to life-safety and those asserting that there is an insufficient threat to life-safety to warrant abrogation of protected individual expression. Additionally, for those institutions not yet sprinklered, this exception provides a great inducement to install them. Those that already have sprinklers may rest assured that when properly designed and installed, they will provide wall to wall coverage and at the very least, provide a tenable environment for escape of the occupants in the event of fire. The IFC has provided a 50 percent compromise for sprinklered occupancies elsewhere without supporting data (807.1.2) and presumably as an inducement for sprinkler installation, has also relaxed building height requirements (1019.2), fire-resistance standards (1017.1) and egress criteria (1016.1); to do so here in regards to decorations would be logically consistent.

As for the Committee’s assertion that Exception #2 is overly vague and subjective, consider that the concept of “such limited quantities that a hazard of fire development or spread is not present,” is precisely the litmus test already adopted by the IFC in regards to I-1 and I-2 occupancies. Who analyzes the fire risk in those occupancies and according to what standards is the hazard there determined? Some might argue that these occupancy classifications are completely dissimilar: I-1 and I-2 are supervised, while R-2 dormitories are not. However this is not the case. First of all, the very definition of a dormitory in IBC 310.2 rests on the assumption that they are under “single management.” R-2 dormitories are among the most tightly regulated of all occupancies. It is reasonable to expect that among all of the professionals exercising oversight of dormitories, including code enforcement personnel, are those that have adequate knowledge of fire behavior to recognize an honest-to-goodness fire hazard when present.

Final Hearing Results

F127-07/08

AS

Code Change No: F128-07/08

Original Proposal

Sections: 807.1.2 (IBC [F] 806.1.2)

Proponent: Douglas H. Evans, PE, Department of Development Services, Clark County, NV

Revise as follows:

807.1.2 (IBC [F] 806.1.2) Combustible decorative materials. The permissible amount of decorative materials meeting the flame propagation performance criteria of NFPA 701 shall not exceed 10 percent of the ~~aggregate area of specific walls and ceilings~~ wall or ceiling area to which it is attached.

Exceptions:

1. In auditoriums in Group A, the permissible amount of decorative material meeting the flame propagation performance criteria of NFPA 701 shall not exceed ~~50~~ 75 percent of the aggregate wall area ~~of walls and ceiling~~ where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.4 of the *International Building Code*.
2. The amount of fabric partitions suspended from the ceiling and not supported by the floor in Group B and M occupancies shall not be limited.

Reason: First of all, the code is inconsistent. Sometimes it specifies walls and ceilings and sometimes walls or ceilings. This revision can be looked at partially as clarification.

Most importantly, imagine a 100,000 sq ft casino, convention center or ballroom with 30 foot high walls (this is not uncommon). If one reads the code literally, this section allows all the decorative materials to be placed in a single location. This could allow draperies or other combustible features to be well in excess of the entire wall area. For the 100,000 sq ft example specified, that could allow in excess of 13,000 sq ft of decorative combustible applications in a single location.

The change to Exception 1 clarifies that the surface being considered is the walls and not the ceiling. In most cases, 50 percent of the walls and ceiling area will exceed 75 percent of the wall area. As such, the proposed amendment will be more conservative (and more specific), while still allowing draperies in theaters to cover a substantial portion of the walls.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved as Submitted for consistency with the actions taken on code changes F120- and F121-07/08.

Assembly Action:

None

Final Hearing Results

F128-07/08

AS

Code Change No: F129-07/08

Original Proposal

Section: 808.1

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

808.1 Wastebaskets and soiled linen containers in Group I-2, I-3 and I-5 occupancies ~~detention and correction facilities.~~ Wastebaskets, soiled linen containers and other waste containers, including their lids, located in Group I-2, I-3 and I-5 occupancies ~~detention and correction facilities~~ shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons shall be stored in an area classified as a waste and linen collection room and constructed in accordance with Table 508.2 of the *International Building Code*.

Reason: This proposal will require that trash and linen containers in I-2 and I-5 occupancies (dependent on a separate code change creating the I-5 occupancy) must meet the same requirement as those containers in I-3 occupancies. In each facility, the occupants have limited, if any, ability for self-evacuation. Plastic containers can add a tremendous fuel load to a fire in a trash or linen container. Many plastic containers will more than triple the fuel load in a fire situation.

This proposal will control the fuel load for these containers that are used routinely throughout the facilities.

This proposal will correlate the IFC with Federal Regulations for these facilities.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The reference in this proposal to a new occupancy "Group I-5" is dependent on the action on Code Change G33-07/08. If that code change is not approved, the reference to Group I-5 will be deleted from this section.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

808.1 Wastebaskets and ~~soiled~~ linen containers in Group I-2, I-3 and I-5 occupancies. Wastebaskets, ~~soiled~~ linen containers and other waste containers, including their lids, located in Group I-2, I-3 and I-5 occupancies shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons shall be stored in an area classified as a waste and linen collection room and constructed in accordance with Table 508.2 of the *International Building Code*.

Committee Reason: The proposal was approved for consistency with the action on code changes F41-, F42- and F58-07/08. The modification re-focuses the change to the linen containers, which are the real issue, rather than whether their contents are clean or soiled.

Assembly Action:

None

Analysis: The reference in this proposal to new occupancy "Group I-5" is dependent on the final action on Code Change G33-07/08 (D). If that code change is not approved, the reference to "Group I-5" would be deleted from this section.

Final Hearing Results

F129-07/08

AM

Code Change No: F132-07/08

Original Proposal

Sections: 903.2.1.3, 903.2.1.4 (IBC [F] 903.2.1.3, [F] 903.2.1.4)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

903.2.1.3 (IBC [F] 903.2.1.3) Group A-3. An automatic sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²);
2. The fire area has an occupant load of 300 or more; or
3. The fire area is located on a floor other than the level of exit discharge.

~~**Exception:** Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.~~

903.2.1.4 (IBC [F] 903.2.1.4) Group A-4. An automatic sprinkler system shall be provided for Group A-4 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²);
2. The fire area has an occupant load of 300 or more; or
3. The fire area is located on a floor other than the level of exit discharge.

~~**Exception:** Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.~~

Reason: The intention of the exception was for gymnasiums and similar areas where the probable occupant load was significantly less than what would be determined based on a square footage per occupant factor. These facilities have become multi-use and the occupant load is frequently higher than what was anticipated or expected when the exception was developed, and the fire load can vary based on the used to far exceed what would be expected for a sporting area.

For example, a community recreation center is constructed with no sprinklers over the gymnasium floor. The same area is also utilized for receptions and various community activities such as work fairs, rummage sale, art exhibits, emergency shelters for persons displaced by natural disasters, etc. Such uses could even include eating, sleeping, and fire loads far in excess of a few uniforms and leather volleyballs.

Cost Impact: Since the rest of the building will be sprinklered, the additional cost is only for additional sprinkler lines.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the current exception that is aimed at limited-use facilities is needed and that the "exclusive" use of the area for participant sports is the key to successful application and must be strictly enforced by the fire code official at the outset of a project. Changes to the use of the area after occupancy should be reviewed as an illegal change in use that must be regulated.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee, requests Approval as Submitted.

Commenter's Reason: This public comment allows for the facility to be construction without any restrictions on use or the need for the local fire code official to track each and every event in each and every location where this exception was utilized within the jurisdiction.

The intention of the exception was for gymnasiums and similar areas where the probable occupant load was significantly less than what would be determined based on a square footage per occupant factor. These facilities have become multi-use and the occupant load is frequently higher than what was anticipated or expected when the exception was developed, and the fire load can vary based on the used to far exceed what would be expected for a sporting area.

For example, a community recreation center is constructed with no sprinklers over the gymnasium floor. The same area is also utilized for receptions and various community activities such as work fairs, rummage sale, art exhibits, emergency shelters for persons displaced by natural disasters, etc. Such uses could even include eating, sleeping, and fire loads far in excess of a few uniforms and leather volleyballs.

Final Hearing Results

F132-07/08

AS

Code Change No: **F133-07/08**

Original Proposal

Sections: 903.2.2 (IBC [F] 903.2.2)

Proponent: Jeff Hugo, National Fire Sprinkler Association

Revise as follows:

903.2.2 (IBC [F] 903.2.2) (Supp) Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than ~~20,000~~ 12,000 square feet (~~1858~~ 1115 m²) in area.
2. Throughout every portion of educational buildings below the lowest level of exit discharge that serves that portion of the building.

Exception: An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level.

Reason: The continuity of mission is important for educational occupancies. If a community loses a school that community cannot quickly recover to resume normal school activities. There are several similarities between educational and several other occupancies, therefore sprinkler requirements should also be similar. Reducing the fire area from 20,000 s.f. to 12,000 s.f. will aid in fire fighter rescue, smaller area of damage, and a quicker recovery to school programs if a sprinkler system is not chosen. Although through consistent fire drills, deaths are rare, but the possibility exists for a large loss of life in educational occupancies. A threshold of 20,000 square feet is one of the highest minimum sprinkler thresholds in the code and exists without good reason. Some states have already mandated complete sprinkler protection in educational occupancies.

In most cases it is not economically feasible to build a school without sprinkler protection. The cost savings for a community to build a school is introduced when the decision to install sprinklers is done at the early stages of the project where they can take advantage of the sprinkler trade ups for building construction. Another factor to consider is federal, state, and local tax monies available to build and repair schools. A fire

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

sprinkled school will cost less to insure, less to rebuild, less liability to the school system, less injuries, less taxes, and less downtime. According to statistics only 24% of the nation's schools have fire sprinklers. However the average fire loss when sprinklers are present are \$2,800 versus \$12,900 having no sprinklers, resulting in a 78% reduction in damage.

Fires during lockdowns, hostage, or terrorist events are now a concern than during the legacy codes where the 20,000 s.f. threshold evolved from. A fire during a lockdown is a lose-lose event for the administrators' and children. Fire sprinklers can control the fire during the lockdown in lieu of endangering the children exiting during the lockdown or prohibiting egress caused by the fire.

Statistics from a four year period of 1999-2002, there were an estimated average of 7,070 structure fires in educational occupancies along with 113 injuries and \$112 million in property damage. K-12 schools make up 5,230 fires, 88 injuries, and \$74 million in fire damage. This is money from the taxes we pay, and these are our children getting burned and injured. Fire sprinklers can reduce the cost while increasing fire protection. Including fire sprinklers during the design process can significantly reduce the construction cost.

Bibliography:

EDUCATIONAL PROPERTIES, National Fire Protection Association, September 2006

Practical Information on Crisis Planning: A Guide for Schools and Communities, US Dept of Education, Jan. 2007

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide increased life safety and property protection in buildings that are an essential part of a community. Whereas several previous proposals sought to sprinkler all schools without exception, this proposal includes a reduced but reasonable threshold that is similar to other sprinkler thresholds in Section 903.

Assembly Action:

None

Final Hearing Results

F133-07/08

AS

Code Change No: **F135-07/08**

Original Proposal

Sections: 903.2.6 (IBC [F] 903.2.6)

Proponent: Jesse J. Beitel, Hughes Associates, Inc., representing American Home Furnishings Alliance and National Home Furnishings Association

Revise as follows:

903.2.6 (IBC [F] 903.2.6) Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. Where a Group M fire area exceeds 12,000 square feet (1115 m²);
2. Where a Group M fire area is located more than three stories above grade plane; ~~or~~
3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²); ~~or~~
4. Where a Group M occupancy is used primarily for the display and sale of upholstered furniture.

Reason: This proposal is submitted jointly by the American Home Furnishings Alliance (AHFA) and the National Home Furnishings Association (NHFA) in the interest of making furniture retail and warehouse facilities safer for employees, customers and first responders. AHFA represents manufacturers and importers of residential furniture, some of whom also operate branded retail stores. NHFA's membership comprises 2,800 corporate entities representing 10,000 retail furniture stores in all 50 states and several foreign countries.

The proposal to require sprinklers for Group M occupancies containing significant amounts of upholstered furniture recognizes that, under certain circumstances, all upholstered furniture will ignite and contribute to the fuel load of a fire. There is no such thing as totally fire safe upholstered furniture.

The AFHA and the NHFA have examined proposals for exempting vendors of certain constructions of furniture and concluded that such exemptions would be impractical for local code officials to enforce. This is the case because the internal construction of furniture cannot be established reliably without deconstructing it.

Further, materials and constructions touted as more fire resistant have not proven so to the satisfaction of fire authorities. The U.S. Consumer Product Safety Commission (CPSC) has tested furniture with combustion modified polyurethane foam such as that required in California and the United Kingdom and found that such foam does not meaningfully improve fire performance when furniture is exposed to an open flame. Other researchers have found that constructions employing the fire-blocking barriers now prevalent in mattresses do not reliably slow the progression of furniture fires. This is likely due to the variety of upholstery fabrics and seating geometries typical of furniture as compared to mattresses.

The most protective code measure would establish uniform, easily enforceable sprinkler requirements and not base safety considerations on differences in furniture construction that may or may not exhibit better fire performance in a retail setting.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

903.2.6 (IBC [F] 903.2.6) Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. Where a Group M fire area exceeds 12,000 square feet (1115 m²);
2. Where a Group M fire area is located more than three stories above grade plane;
3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²) ; or
4. Where a Group M occupancy is used ~~primarily~~ for the display and sale of upholstered furniture.

Committee Reason: The proposal was approved because the committee felt that it is a good first step supported by the furniture industry in attempting to deal with the hazards presented by upholstered furniture. The committee indicated its sense that future efforts on the topic need to address Group F and S upholstered furniture occupancies as well and that a reasonable sprinkler threshold needs to be added to provide some relief to the small businesses that will now be affected. The modification removes a subjective term that the committee felt could create serious enforcement inconsistencies.

Assembly Action:

None

Final Hearing Results

F135-07/08

AM

Code Change No: **F136-07/08**

Original Proposal

Sections: 903.2.8, 903.2.8.1, 903.2.9 (IBC [F] 903.2.8, [F] 903.2.8.1, [F] 903.2.9)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

903.2.8 (IBC [F] 903.2.8) Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m²);
2. A Group S-1 fire area is located more than three stories above grade plane; or
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m²).

903.2.8.1 (IBC [F] 903.2.8.1) (Supp) Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406 of the *International Building Code*, as shown:

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m²).
2. Buildings no more than one story above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m²).
3. Buildings with a repair garage servicing vehicles parked in the basement.
4. A group S-1 fire area used for the repair of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m²).

903.2.9 (IBC [F] 903.2.9) (Supp) Group S-2. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.4 of the *International Building Code* as follows.

1. Where the fire area of the enclosed parking garage exceeds 12,000 square feet (1115 m²); or
2. Where the enclosed parking garage is located beneath other groups.

~~**Exception:** Enclosed parking garages located beneath Group R-3 occupancies.~~

Reason: This proposal adds an additional trigger for sprinkler protection in repair garages. This is a logical alignment with Section 903.2.9.1. Currently, a building that stores trucks is required to be protected by a fire sprinkler system at 5,000 square feet but if trucks are repaired within the same building, the building can go up to 12,000 square feet. The addition of the term 'stored' within 903.2.8 has been added since a multi-purpose are used to store more than trucks, such as a fire station bay, is an S-1 rather than an S-2.

The removal of the exception to 903.2.9 is to add clarity. Group R-3 occupancies are required to be protected by a fire sprinkler system and the exception adds confusion.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

903.2.9 (IBC [F] 903.2.9) (Supp) Group S-2. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.4 of the *International Building Code* as follows.

1. Where the fire area of the enclosed parking garage exceeds 12,000 square feet (1115 m²); or
2. Where the enclosed parking garage is located beneath other groups.

Exception: Enclosed parking garages located beneath Group R-3 occupancies.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was disapproved because the committee felt that it will provide fire protection for the more hazardous area of garages. The modification retains the exception because Group R-3 occupancies can be sprinklered with an NFPA 13D system which would not include the garages.

Assembly Action:

None

Final Hearing Results

F136-07/08

AM

Code Change No: **F138-07/08**

Original Proposal

Sections: 903.2.10, 903.2.12.1, 903.2.12.2, 903.2.13, Table 903.2.13 (IBC [F] 903.2.10, [F] 903.2.12.1, [F] 903.2.12.2, [F] 903.2.13, [F] Table 903.2.13)

Proponent: Daniel E. Nichols, PE, NY State Division of Code Enforcement and Administration

1. Revise as follows:

903.2.10 (IBC [F] 903.2.10) ~~Windowless stories in all occupancies~~ Specific buildings areas and hazards. In all occupancies an automatic sprinkler system shall be installed for building design or hazards in the locations set forth in Sections 903.2.10.1 through ~~903.2.10.4-3~~ 903.2.10.6.

Exception: Group R-3 and Group U.

2. Relocate sections and table as follows:

~~903.2.12.4~~ **903.2.10.4 (IBC [F] ~~903.2.12.4~~ [F] ~~903.2.10.4~~) Ducts conveying hazardous exhausts.** Where required by the *International Mechanical Code*, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, flammable or combustible materials.

Exception: Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

~~903.2.12.2~~ **903.2.10.5 (IBC [F] ~~903.2.12.2~~ [F] ~~903.2.10.5~~) Commercial cooking operations.** An automatic sprinkler system shall be installed in a commercial kitchen exhaust hood and duct system where an automatic sprinkler system is used to comply with Section 904.

~~903.2.13~~ **903.2.10.6 (IBC [F] ~~903.2.13~~ [F] ~~903.2.10.6~~) Other required suppression system.** In addition to requirements of 903.2, the provisions indicated in Table ~~903.2.13~~ 903.2.10 also require the installation of a suppression system for certain buildings and areas.

~~TABLE 903.2.13~~ **903.2.10 (IBC TABLE [F] ~~903.2.13~~ [F] ~~903.2.10~~)** ADDITIONAL REQUIRED FIRE-EXTINGUISHING SYSTEMS

(No change to table contents)

Reason: At present both Section 903.2.10 and 903.2.12 identify "other" places where sprinkler protection is required. These 5 things are either based on an identifiable hazard of the activity or design. As compared to section 903.2.11 which is essentially a list of references to other provisions, these 5 are detailed in Section 903. The distinction between the items in 903.2.10 and .12 is artificial and unneeded. Further, the existing title of 903.2.10 – Windowless stories in all occupancies is misleading. Only subsection 903.2.10.1 addresses the windowless situation. The intent of this proposal is editorial. It results in the sprinkler requirement provisions of 903 to be in 4 rough categories: 1 – Based on occupancy; 2 – based on building design or feature; 3-reference to other section; 4 – during construction;

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a logical reorganization of the sections.

Assembly Action:

None

Final Hearing Results

F138-07/08

AS

Code Change No: **F140-07/08**

Original Proposal

Sections: 903.3.1.2 (IBC [F] 903.3.1.2)

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing National Multi Housing Council

Revise as follows:

903.3.1.2 (IBC [F] 903.3.1.2) NFPA 13R sprinkler systems. ~~Where allowed in buildings of~~ In Group R occupancies, up to and including four stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13R.

Reason: The proposed change is intended to clarify application of the code with respect to NFPA 13R systems. The title of NFPA 13R is "Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height," with the key word being "occupancies." Currently, Section 903.3.1.2, by referring to "buildings of Group R," implies that NFPA 13R systems would not be permitted in any portion of a mixed use occupancy, which is inappropriate. In a mixed use containing Group R, it is entirely appropriate to permit NFPA 13R as a basis for sprinkler protection in the residential portion of the building, as well as accessory uses within residential areas. Other areas are, however, be required to be protected in accordance with NFPA 13. The proposal makes this clear.

Note that Section 903.2.7 still requires fire sprinklers throughout all buildings with a Group R fire area, so by changing Section 903.3.1.2 to refer to "occupancies," there is no impact on the requirement that the entire building containing a Group R fire area must be sprinklered.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee disagreed that the proposal is a simple clarification and clean-up of the section and felt that there is also sufficient ambiguity in Section 903.3.1 and all of its subsections to create a need for a complete re-work of that section and all of its subsections. It was felt that this section could be viewed as a specific requirement that would override Section 903.3.1 which could be viewed as only the general requirement and that mixed uses could claim on that basis that non-residential parts of the building do not need to comply with NFPA 13. Based on the proposed wording, it was also felt that this revised section could mandate the use of NFPA 13R for all Group R occupancies

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jeffrey Shapiro, PE, International Code Consultants, representing National Multi Housing Council, requests Approval as Modified by this public comment.

Replace proposal with the following:

903.3.1 Standards. Sprinkler systems shall be designed and installed in accordance with Sections 903.3.1.1, unless otherwise permitted by Sections 903.3.1.2 ~~or~~ and 903.3.1.3.

903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1.

903.3.1.1.1 Exempt locations. Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.
3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.
5. Fire service access elevator machine rooms and machinery spaces.

903.3.1.2 NFPA 13R sprinkler systems. ~~Where allowed in buildings of Group R, up to and including four stories in height, a~~ Automatic sprinkler systems ~~shall be in Group R occupancies up to and including four stories in height shall be permitted to be~~ installed throughout in accordance with NFPA 13R.

903.3.1.2.1 Balconies and decks. Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units where the building is of Type V construction, provided there is a roof or deck above. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

903.3.1.3 NFPA 13D sprinkler systems. ~~Where allowed,~~ Automatic sprinkler systems ~~installed~~ in one- and two-family dwellings shall be ~~permitted to be~~ installed throughout in accordance with NFPA 13D.

Commenter's Reason: The proposed revision addresses the request of the code development committee for a comprehensive cleanup of this section. Although our original intent was simply to clarify application of the code with respect to NFPA 13R systems, the committee made it clear that they wanted the whole section fixed. That has now been done.

Final Hearing Results

F140-07/08

AMPC

Code Change No: F144-07/08

Original Proposal

Sections: 903.3.1.3 (IBC [F] 903.3.1.3)

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Revise as follows:

903.3.1.3 (IBC [F] 903.3.1.3) NFPA 13D sprinkler systems. Where allowed, automatic sprinkler systems installed in one and two-family dwellings and townhouses shall be installed throughout in accordance with NFPA 13D.

Reason: This proposal clarifies that NFPA 13D systems are an appropriate application in the townhouse environment. A townhouse is defined as a "single-family dwelling" by the IBC and the IRC. IRC Section R317.2 further indicates, "Each townhouse shall be considered a separate building. . ." NFPA 13D's scope states, "This standard shall cover the design and installation of automatic sprinkler systems for protection against the fire hazards in one- and two-family dwellings and manufactured homes." NFPA 13D's definition of dwelling states, "Any building that contains not more than one or two dwelling units. . ." Therefore, since each townhouse is classified as a separate building designed under the IBC, IRC and 13D definitions, the 13D system is an appropriate level of protection for each townhouse.

There are also a number of practical applications that preclude the utilization of a 13R system in a townhouse environment without significant difficulty:

1. Since "townhomes" typically involve separate ownership of property and the units extent from "foundation to roof", a common 13R system piping supplying all units would necessitate a complex common ownership element shared between the differing property owners. A community association would need to be established in order to "own" the common element. This common element may also require recorded easement to access the system in each persons house.
2. This community association would need to maintain the 13R system since 13R systems require maintenance and inspections in accordance with NFPA 25. This would involve coordinated access to each property and a shared maintenance cost.
3. If an external bell or monitoring of the 13R system is required, this would necessitate a separate house electrical panel, again owned by a community association. This would create an ongoing expense of electrical service and maintenance/testing of a fire alarm monitoring panel, if present.
4. If monitoring of the 13R system is required, this would then mandate a method of transmission which may involve the added expense of phone lines to the community association. An easement may be needed to access the phone lines.

None of these issues are present when an NFPA 13D system is installed in a townhouse. Therefore, the 13D system is appropriate for the townhouse application.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it is consistent with the scope of NFPA 13D. It was pointed out, however, that the definition of "townhouse" in the IBC includes 3 or more attached dwelling units which differs from the term defined in the IRC. Some separation requirement could be added to this section to resolve that issue.

Assembly Action:

None

Final Hearing Results

F144-07/08

AS

Code Change No: **F147-07/08**

Original Proposal

Sections: 903.4.1 (IBC [F] 903.4.1)

Proponent: Steven L. Schoon, Golder Ranch Fire District, AZ, representing Arizona Fire Marshals Association

Revise as follows:

903.4.1 (IBC [F] 903.4.1) (Supp) Monitoring. Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved ~~central station, remote supervising station or proprietary~~ supervising station or, when approved by the fire code official, shall sound an audible signal at a constantly attended location.

Exceptions:

1. Underground key or hub valves in roadway boxes provided by the municipality or public utility are not required to be monitored.
2. Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position. In occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.

Reason: The proposed revision is for consistency with the code language found in the fire alarm system monitoring Section 907.7.5 (2007 Supplement to the IFC) Supervising Station is defined by the IFC and the wording of central station, remote supervising station or proprietary supervising station is not needed.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it removes unnecessary text.

Assembly Action:

None

Final Hearing Results

F147-07/08

AS

Code Change No: **F154-07/08**

Original Proposal

Section: 903.6.2 (New)

Proponent: Anthony C. Apfelbeck, City of Altamonte Springs, FL

Add new text as follows:

903.6.2 Group I-2. An automatic sprinkler system shall be provided throughout Group I-2 fire areas. The sprinkler system shall be provided throughout the floor where the Group I-2 occupancy is located, and in all floors between the Group I-2 occupancy and the level of exit discharge.

Reason: Fire Sprinkler protection of existing hospitals and nursing homes is of critical importance due to the nature of the occupants. In the I-2 occupancies, the occupants are “not capable of self-preservation.” Since the occupants are not capable of self-preservation, reliance must be placed on an active fire suppression system to provide the first line of life safety protection to these occupants. Per the NFPA report on Facilities that Care for the Aged, “The death rate per 1,000 fires was 82% lower when automatic suppression systems were present.” Furthermore, the report states that “Residents of these facilities are particularly vulnerable. People over 65 face twice the risk of dying in a home fire as the general population. The risk increases with increasing age.¹ Consequently, the aged are considered a high-risk population. Institutional facilities that care for older adults must work diligently to prevent fires and to train staff and to equip the property (e.g., active systems) for effective response should a fire occur. The deadliest fire in U.S. history in this property class was the 1957 Katie Jane Nursing Home fire in Warrenton, Missouri, that killed 72 people. “

Recently, the Nashville nursing home fire on September 25th 2003 resulted in 15 deaths. The Hartford nursing home fire on February 26th resulted in 16 deaths. Both of these fires were in non-fire sprinkler protected properties.

The NFPA 101 has responded to this issue by requiring fire sprinklers in all existing nursing homes. It is important to note that the proposal for this change to NFPA 101 was actually submitted by the American Health Care Association (AHCA). However, for the numerous states and jurisdictions that do not have NFPA 101 adopted, and rely solely on the IFC as a stand-alone document, this minimum protection level is not provided. . If an adopting jurisdiction chooses to remove this code provision during the adoption process, that is their local prerogative. However, it is the burden of the ICC process to promulgate codes based on a technical basis and not a potential political implication at the local level. This code change proposal will ensure that existing nursing homes are provided with a reasonable level of life safety protection that is warranted by the technical evidence and expected by the at large public.

Cost Impact: The code change will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which recognizes the life loss history of Group I-2 occupancies resulting from the occupants not being capable of self-preservation and the need to defend them in place.

Assembly Action:

None

Final Hearing Results

F154-07/08

AS

Code Change No: **F156-07/08**

Original Proposal

Section: 904.11.6.4 (New)

Proponent: Michael J. Laderoute, MJL Associates, Inc., representing Fire Equipment Manufacturer's Association

Add new text as follows:

904.11.6.4 Existing automatic fire extinguishing systems. Where changes in the cooking media, positioning of cooking equipment or replacement of cooking equipment occur in existing commercial cooking systems, the automatic fire extinguishing system shall be required to comply with the applicable provisions of Sections 904.11 through 904.11.4.

(Renumber subsequent sections)

Reason: New text provides guidance, as well as adds clarity to when existing automatic fire extinguishing systems protecting commercial cooking operations need to be modified, upgraded or replaced to meet UL 300 requirements mandated by this code. AHJ's, inspectors and end-users have been requesting guidance from the code. Many states already adopted a similar requirement or put compliance dates into effect. The above text and requirement are consistent with other codes.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide needed direction for the re-evaluation of cooking equipment and its protection. It also recognizes that modern extinguishing system design is very precise with reduced toleration for errors and that the older generation dry chemical systems may no longer provide adequate protection.

Assembly Action:

None

Final Hearing Results

F156-07/08

AS

Code Change No: **F157-07/08**

Original Proposal

Sections: 905.3.3 (IBC [F] 905.3.3)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

905.3.3 (IBC [F] 905.3.3) (Supp) Covered mall buildings. A covered mall building shall be equipped throughout with a standpipe system where required by Section 905.3.1. Covered mall buildings not required to be equipped with a standpipe system by Section 905.3.1 shall be equipped with Class I hose connections connected to the automatic sprinkler system sized to deliver water at 250 gallons per minute (946.4 L/min) at the most hydraulically remote

~~outlet hose connection~~ while concurrently supplying the automatic sprinkler system demand. The standpipe system shall be designed to not exceed a friction loss of 50 pounds per square inch (345 kPa) with a flow of 250 gallons per minute (946.4 L/min) from the fire department connection to the hydraulically most remote hose connection. Hose connections shall be provided at each of the following locations:

1. Within the mall at the entrance to each exit passageway or corridor.
2. At each floor-level landing within enclosed stairways opening directly on the mall.
3. At exterior public entrances to the mall.
4. At other locations as necessary so that the distance to reach all portions of a tenant space or anchor store does not exceed 200 (60 960 mm) feet from a hose connection.

Reason: Design of standpipe systems need to have two parameters, flow and pressure. Currently, there is no residual design pressure as part of the requirement which, in turn, provides a discrepancy on what output pressure to a fire department standpipe pack will be. Additionally, this section provides for hose connections connected to a sprinkler system rather than a bona-fide standpipe system. A vast majority of these systems act as a manual wet system, requiring the fire department to pump the FDC. Since this section deals with is a sprinkler system with hose connections, it makes sense that the maximum pump pressure is 175 psi so there is not unneeded damage to the sprinkler heads.

Location of the standpipe connections is revised to take into account some of the vast and varying designs found in mall layouts. The design of a covered mall has its roots to the covering of a city street. Section 402 of the IBC is still based on this premise, noticeable by the 20 foot wide mall walkway, tenant separations, etc. The fire department hose connections required by the section are to allow the fire department to extinguish a fire within the building, independent of the height of the mall. The problem is that the current hose connections are predicated on the exiting requirements found in IBC Section 402. Section 402.4.4 requires the travel distance within the mall space of a maximum of 200 feet. The theory is that the measurement starts at all mall entrances and exits, and meets the distances found in IFC Section 905 for sprinklered buildings. However, the current system does nothing for fires in tenant spaces and anchor buildings.

The current code text does not provide adequate coverage for the covered mall building design. The revision in Item 4 will allow for additional hose connections throughout the mall to reach those portions of the mall that are not within 200' of hose from a connection required in Items #1-3.

The term "outlet" is revised to "connection" so that it is consistent throughout the requirements.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

905.3.3 (IBC [F] 905.3.3) (Supp) Covered mall buildings. A covered mall building shall be equipped throughout with a standpipe system where required by Section 905.3.1. Covered mall buildings not required to be equipped with a standpipe system by Section 905.3.1 shall be equipped with Class I hose connections connected to the automatic sprinkler system sized to deliver water at 250 gallons per minute (946.4 L/min) at the most hydraulically remote hose connection while concurrently supplying the automatic sprinkler system demand. The standpipe system shall be designed to not exceed a ~~friction loss of 50 pounds per square inch (345 kPa)~~ residual pressure loss with a flow of 250 gallons per minute (946.4 L/min) from the fire department connection to the hydraulically most remote hose connection. Hose connections shall be provided at each of the following locations:

1. Within the mall at the entrance to each exit passageway or corridor.
2. At each floor-level landing within enclosed stairways opening directly on the mall.
3. At exterior public entrances to the mall.
4. At other locations as necessary so that the distance to reach all portions of a tenant space ~~anchor store~~ does not exceed 200 (60 960 mm) feet from a hose connection.

Committee Reason: The proposal was approved because the committee felt that it provides good guidance to the code official regarding design of standpipe systems in covered malls. The modifications reflect what the committee felt the correct pressure loss terminology should be and also the fact that a covered mall, by definition, does not include anchor stores.

Assembly Action:

None

Final Hearing Results

F157-07/08

AM

Code Change No: F158-07/08

Original Proposal

Sections: 905.3.7 (IBC [F] 905.3.7)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Delete without substitution:

~~**905.3.7 (IBC [F] 905.3.7) Marinas and boatyards.** Marinas and boatyards shall be equipped throughout with standpipe systems in accordance with NFPA 303.~~

Reason: This section is no longer needed after the recent adoption of the Chapter 45 Marinas (Supp). Section 905.3.7 now needs to be deleted since the issue of standpipes is now addressed in Chapter 45 (Supp). The deletion needs to occur in the IFC and IBC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

905.3.7 (IBC [F] 905.3.7) Marinas and boatyards. Standpipes in marinas and boatyards shall comply with Chapter 45.

Committee Reason: The proposal was approved because the committee felt that that the proponent's reason statement substantiates the need for the change, however the committee also felt that leaving a "pointer" section in Section 905, as indicated in the modification, would be useful to the fire code official.

Assembly Action:

None

Final Hearing Results

F158-07/08

AM

Code Change No: F159-07/08

Original Proposal

Sections: 905.4 (IBC [F] 905.4)

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

905.4 (IBC [F] 905.4) Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an intermediate floor level landing between floors, unless otherwise approved by the fire code official.

2. On each side of the wall adjacent to the exit opening of a horizontal exit.

Exception: Where floor areas adjacent to a horizontal exit are reachable from exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30480 mm) of hose, a hose connection shall not be required at the horizontal exit.

3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

Exception: Where floor areas adjacent to an exit passageway are reachable from exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.

4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an exit passageway or exit corridor to the mall.
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a hose connection located either on the roof or at the highest landing of a stairway with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.
6. Where the most remote portion of a nonsprinklered floor or story is more than 150 feet (45 720 mm) from a hose connection or the most remote portion of a sprinklered floor or story is more than 200 feet (60 960 mm) from a hose connection, the fire code official is authorized to require that additional hose connections be provided in approved locations.

Reason: The exception to item #2 was included in the code as a recognition of the fact that multiple outlets in the same vicinity do not add to safety but merely increase costs. The same should be true for the situation described in item #3. If there is an outlet that is located in the vicinity of the exit passageway entrance, then it makes sense to use that and not require an outlet at each entrance.

To illustrate, imagine two scenarios: 1) In a multi-level covered mall building, an exit stairway exists in which a vertical standpipe is provided. The stairway is located approximately 30 feet from the mall entrance. Because the code requires an outlet at the entrance to the exit passageway, a second outlet would need to be installed although the area could be reached from the outlet in the stairway. 2) An exit passageway is provided in a health care setting as a way to meet travel distances and smoke compartment criteria. It is not a horizontal exit because the area of refuge does not exist in the passageway. Multiple doors access the corridor from rooms and spaces adjacent to it. According to the current language of the code, a hose outlet would be required adjacent to each of these doors which would result in an outlet every 20 – 30 feet (or even closer) inside the passageway.

In both these scenarios the literal application of the code does not contribute to additional safety but merely adds cost to the construction. It is only reasonable that the exception apply to this condition in the same manner as that item immediately prior.

This proposal will afford the same level of logic and reason as that in the prior item and eliminate a sometimes costly duplication.

Cost Impact: The code change proposal will not increase the cost of construction. A reduction in construction costs will occur in situations where the proposed exception reduces the redundant outlet(s).

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a useful clarification and refinement of required standpipe hose connection locations.

Assembly Action:

None

Final Hearing Results

F159-07/08

AS

Code Change No: F160-07/08

Original Proposal

Sections: 906.2 (IBC [F] 906.2)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

906.2 (IBC [F] 906.2) (Supp) General requirements. Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and NFPA 10.

Exceptions:

1. The travel distance to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. Thirty-day inspections shall not be required and maintenance shall be allowed to be once every three years for dry-chemical or halogenated agent portable fire extinguishers that are supervised by a listed and approved electronic monitoring device, provided that all of the following conditions are met:
 - 2.1. Electronic monitoring shall confirm that extinguishers are properly positioned, properly charged and unobstructed.
 - 2.2. Loss of power or circuit continuity to the electronic monitoring device shall initiate a trouble signal.
 - 2.3. The extinguishers shall be installed inside of a building or cabinet in a noncorrosive environment.
 - 2.4. Electronic monitoring devices and supervisory circuits shall be tested every three years when extinguisher maintenance is performed.
 - 2.5. A written log of required hydrostatic test dates for extinguishers shall be maintained by the owner to ensure that hydrostatic tests are conducted at the frequency required by NFPA10.
3. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

Reason: Extinguishers located throughout the facility are at times tampered with, removed and/or used for weapons by occupants in a detention or correctional setting. This change would protect the extinguishers from damage or removal by inmates while still making them available to staff and employees for use in an emergency situation. At least one of the Legacy Codes allowed extinguishers to be located at staff locations and/or locked.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a reasonable exception to the fire extinguisher location requirements for Group I-3 occupancies, where tampering is a concern.

Assembly Action:

None

Final Hearing Results

F160-07/08

AS

Code Change No: F161-07/08

Original Proposal

Sections: 907.1.1, 907.1.2 (New) [IBC [F] 907.1.1, [F] 907.1.2 (New)]

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.1.1 (IBC [F] 907.1.1) (Supp) Construction documents. ~~Construction documents for fire alarm systems shall be submitted for review and approval prior to system installation.~~ of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code, the *International Building Code*, and relevant laws, ordinances, rules and regulations, as determined by the fire code official.

907.1.2 (IBC [F] 907.1.2) (Supp) Fire alarm shop drawings. ~~Construction documents~~ Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation. ~~Construction documents~~ and shall include, but not be limited to, all of the following:

1. A floor plan which indicates the use of all rooms.
2. Locations of alarm-initiating ~~and notification appliances~~ devices.
3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
- ~~3~~ 4. Location of fire alarm control unit, transponders, and notification power supplies.
- ~~4~~ 5. Annunciators.
- ~~5~~ 6. Power connection.
- ~~6~~ 7. Battery calculations.
- ~~7~~ 8. Conductor type and sizes.
- ~~8~~ 9. Voltage drop calculations.
9. 10. Manufacturers, data sheets indicating model numbers and listing information for equipment, devices and materials.
- ~~10~~ 11. Details of ceiling height and construction.
- ~~11~~ 12. The interface of fire safety control functions.
- ~~12~~ 13. Classification of the supervising station.

907.1.2 (Supp) 907.1.3 (IBC [F] 907.1.3) Equipment. (No change to current text)

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need further clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

These changes are important because construction documents and shop drawings are not for the same purpose. The wording added to 907.1.1 was extracted from the IBC, Section 106.1.1. Shop drawings referred to in Section 907 are specific to fire alarm equipment and installation. This information may not be available at the time the contractor applies for the building permit, but is essential for review prior to the installation of the fire alarm system.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the change provides a needed refinement of the construction document requirements which were part of the reorganization of Section 907 in the last cycle.

Assembly Action:

None

Final Hearing Results

F161-07/08

AS

Code Change No: **F162-07/08**

Original Proposal

Sections: 907.2 (IBC [F] 907.2)

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing National Multi Housing Council

Revise as follows:

907.2 (IBC [F] 907.2) (Supp) Where required - new buildings and structures. An approved manual, automatic or manual and automatic fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.22 and provide occupant notification in accordance with Section 907.6, unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Exceptions:

1. The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.
2. The manual fire alarm box is not required for Group R-2 occupancies.

Reason: Manual fire alarm boxes in apartment occupancies invite tampering and false alarms, and there is no apparent fire safety benefit to be gained by placing a single fire alarm box in such occupancies.

Justification offered last year to substantiate the need for the single manual alarm box was that it might be needed by a sprinkler technician to initiate an alarm if sprinklers/waterflow switches are out of service, but this makes no sense. Assuming that the alarm box is located in the valve room to avoid making it available to vandals, a technician working on any part of the sprinkler system, other than the valve, would be far away, and may or may not even know where the alarm box is. If the box were to be located where it will be accessible for occupant use, it is difficult to believe that occupants would know the location of a single pull box in a building or that they would seek out the box to initiate an alarm if the waterflow switch failed.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

907.2 (IBC [F] 907.2) (Supp) Where required - new buildings and structures. An approved manual, automatic or manual and automatic fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in

accordance with Sections 907.2.1 through 907.2.22 and provide occupant notification in accordance with Section 907.6, unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Exceptions:

1. The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.
2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is accessible to the public.

Committee Reason: The proposal was approved because the committee agreed that the manual fire alarm box should not be provided in Group R-2 where false alarms are a problem. The modification avoids putting the manual fire alarm box in all Group R-2 occupancies where there could be a false alarm problem while leaving open the option for the fire code official to require one in a restricted location for use by fire watch personnel, if needed.

Assembly Action:

None

Final Hearing Results

F162-07/08

AM

Code Change No: F163-07/08

Original Proposal

Sections: 907.2, 907.2.6.3, 907.2.8.2, 907.2.11, 907.2.12, 907.2.12.1, 907.2.13, 907.2.14, 907.2.17, 902.1 (IBC [F] 907.2, [F] 907.2.6.3, [F] 907.2.8.2, [F] 907.2.11, [F] 907.2.12, [F] 907.2.12.1, [F] 907.2.13, [F] 907.2.14, [F] 907.2.17, [F] 902.1)

Proponent: Gene Boecker, Code Consultants, Inc.

1. Revise as follows:

907.2 (IBC [F] 907.2) (Supp) Where required new buildings and structures. An approved ~~manual, automatic or manual and automatic~~ fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.22 and provide occupant notification in accordance with Section 907.6, unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Exception: The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.

907.2.6.3 (IBC [F] 907.2.6.3) (Supp) Group I-3 occupancies. Group I-3 occupancies shall be equipped with a manual fire alarm system and automatic ~~fire alarm~~ smoke detection system installed for alerting staff.

907.2.8.2 (IBC [F] 907.2.8.2) (Supp) Automatic smoke detection ~~fire alarm~~ system. An automatic smoke detection ~~fire alarm~~ system that activates the occupant notification system in accordance with Section 907.6 shall be installed throughout all interior corridors serving sleeping units.

Exception: An automatic smoke ~~fire~~-detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

907.2.11 (IBC [F] 907.2.11) (Supp) Special amusement buildings. An automatic smoke detection system shall be provided in special amusement buildings in accordance with Sections 907.2.11.1 through 907.2.11.3.

Exception: ~~In areas where ambient conditions will cause a smoke detection system to alarm, an approved alternative type of automatic fire detector shall be installed.~~

907.2.12 (IBC [F] 907.2.12) (Supp) High-rise buildings. Buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall be provided with an automatic ~~fire alarm~~ smoke detection system in accordance with Section 907.2.12.1 and an emergency voice/alarm communication system in accordance with Section 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 907.2.21 and Section 412 of the *International Building Code*.
2. Open parking garages in accordance with Section 406.3 of the *International Building Code*.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *International Building Code*.
4. Low-hazard special occupancies in accordance with Section 503.1.1 of the *International Building Code*.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415 of the *International Building Code*.
6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the paging system.

907.2.12.1 (IBC [F] 907.2.12.1) (Supp) Automatic fire-smoke detection. ~~Smoke detectors~~ An automatic smoke detection system shall be provided in accordance with this section. ~~Smoke detectors shall be connected to an automatic fire alarm system.~~ The activation of any detector required by this section shall operate the emergency voice/alarm communication system. Smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room which is not provided with sprinkler protection, elevator machine rooms, and in elevator lobbies.
2. In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m³/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet.
3. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies, a smoke detector is allowed to be used in each return-air riser carrying not more than 5,000 cfm (2.4m³/s) and serving not more than 10 air-inlet openings.

907.2.13 (IBC [F] 907.2.13) (Supp) Atriums connecting more than two stories. A ~~fire alarm~~ smoke detection system shall be installed in occupancies with an atrium that connects more than two stories. The system shall be activated in accordance with Section 907.6. Such occupancies in Group A, E or M shall be provided with an emergency voice/alarm communication system complying with the requirements of Section 907.6.2.2.

907.2.14 (IBC [F] 907.2.14) (Supp) High-piled combustible storage areas. An automatic ~~fire~~ smoke detection system shall be installed throughout high-piled combustible storage areas where required by Section 2306.5.

907.2.17 (IBC [F] 907.2.14) (Supp) Underground buildings with smoke control systems. Where a smoke control system is installed in an underground building in accordance with the *International Building Code*, automatic ~~fire~~ smoke detectors shall be provided in accordance with Sections 907.2.17.1 and 907.2.17.2.

2. Add new definition as follows:

902.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AUTOMATIC SMOKE DETECTION SYSTEM. A fire alarm system that has initiation devices that utilize smoke detectors for protection of an area such as a room or space with detectors to provide early warning of fire.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from

various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

The main purpose of this code proposal is to align terms within this Section to two main terms, "automatic smoke detection system" and "manual fire alarm system." Currently, the language can be confusing with some sections requiring automatic fire detection systems and others requiring automatic smoke detection systems. Both of these terms are technically requiring the same thing. However, an automatic fire detection can be interpreted as a sprinkler system, which is not the intent of this section. If it was, the requirements would be found in Section 903.

A definition has been added for automatic smoke detection system, to assist the code user in determining what the code is specifically requiring.

Of special note, Section 907.2.11 appears to be a technical change. However, this is editorial since this allowance is globally accepted throughout Section 907, being specifically regulated in Section 907.5.3.

Furthermore, Section 907.2.12.1 removes redundant language with the addition of the 'system' requirement and is not a technical change.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

907.2.13 (IBC [F] 907.2.13) (Supp) Atriums connecting more than two stories. A ~~fire alarm smoke detection~~ system shall be installed in occupancies with an atrium that connects more than two stories, with smoke detection installed throughout the atrium. The system shall be activated in accordance with Section 907.6. Such occupancies in Group A, E or M shall be provided with an emergency voice/alarm communication system complying with the requirements of Section 907.6.2.2.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved because the committee felt that it will provide correlated usage of the newly defined term "automatic smoke detection system" and the term "manual fire alarm system", thus eliminating the current confusion caused by some sections requiring "automatic fire detection systems" (which could be interpreted as being a sprinkler system) and others requiring "automatic smoke detection systems". The modification provides clarification that only the atrium portion of the building is required to be provided with smoke detection, not the entire building.

Assembly Action:

None

Final Hearing Results

F163-07/08

AM

Code Change No: F164-07/08

Original Proposal

Sections: 907.2.5, 907.2.6, 907.2.6.3.3, 907.2.7.1, 907.2.12.2, 907.6, 907.6.2.1.1, 9097.6.2.1.2, 907.6.2.2, 907.6.2.3.3 (New), 907.6.2.2.4, 907.7.3.2, 907.7.4 (IBC [F] 907.2.5, [F] 907.2.6, [F] 907.2.6.3.3, [F] 907.2.7.1, [F] 907.2.12.2, [F] 907.6, [F] 907.6.2.1.1, [F] 907.6.2.1.2, [F] 907.6.2.2, [F] 907.6.2.3.3 (New), [F] 907.6.2.2.4, [F] 907.7.3.2, [F] 907.7.4

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.2.5 (IBC [F] 907.2.5) (Supp) Group H. A manual fire alarm system that activates the occupant notification system shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. An automatic smoke detection system that activates the occupant notification system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with Chapters 37, 39 and 40, respectively.

907.2.6 (IBC [F] 907.2.6) (Supp) Group I. A manual fire alarm system that activates the occupant notification system shall be installed in Group I occupancies. An automatic smoke detection system that activates the occupant notification system shall be provided in accordance with Sections 907.2.6.1 and 907.2.6.2.

907.2.6.3.3 (IBC [F] 907.2.6.3.3) Smoke detectors. An automatic smoke detection system shall be installed throughout resident housing areas, including sleeping units and contiguous day rooms, group activity spaces and other common spaces normally accessible to residents.

Exceptions:

1. Other approved smoke-detection arrangements providing equivalent protection, including, but not limited to, placing detectors in exhaust ducts from cells or behind protective guards listed for the purpose, are allowed when necessary to prevent damage or tampering.
2. Sleeping units in Use Conditions 2 and 3 as described in Section 308 of the *International Building Code*.
3. Smoke detectors are not required in sleeping units with four or fewer occupants in smoke compartments that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

907.2.7.1 (IBC [F] 907.2.7.1) (Supp) Occupant notification. During times that the building is occupied, the initiation of a signal from a manual fire alarm box or from a water flow switch shall not be required to activate the alarm notification appliances when an alarm signal is activated at a constantly attended location from which evacuation instructions shall be initiated over an emergency voice/alarm communication system installed in accordance with Section 907.6.2.2.

~~The emergency voice/alarm communication system shall be allowed to be used for other announcements, provided the manual fire alarm use takes precedence over any other use.~~

907.2.12.2 (IBC [F] 907.2.12.2) (Supp) Fire department communication system. An approved two-way, fire department communication system designed and installed in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center complying with Section 509 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed exit stairway.

Exception: Fire department radio systems are allowed to replace two-way fire department communication systems where approved by the fire department.

907.6 (IBC [F] 907.6) (Supp) Alarm Occupant notification systems. A fire alarm system shall annunciate at the panel and shall initiate occupant notification upon activation, in accordance with Sections 907.6.1 through 907.6.2.3.4. Where a fire alarm system is required by another section of this code, it shall be activated by:

1. Automatic fire detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Automatic fire-extinguishing systems.

Exceptions:

- ~~1. Occupant notification is not required for fire detectors used to control fire safety functions in accordance with Section 907.4.~~
- ~~2. Where notification systems are allowed elsewhere in Section 907 to annunciate at a constantly attended location.~~

907.6.2.1.1 (IBC [F] 907.6.2.1.1) (Supp) Average sound pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every ~~occupied~~ occupiable space within the building. The minimum sound pressure levels shall be: 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies.

907.6.2.1.2 (IBC [F] 907.6.2.1.2) (Supp) Maximum sound pressure. The maximum sound pressure level for audible alarm notification appliances shall be 110 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than ~~405~~ 95 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

907.6.2.2 (IBC [F] 907.6.2.2) (Supp) Emergency voice/alarm communication system. The emergency voice/alarm communication system shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation on a minimum of the alarming floor, the floor above and the floor below in accordance with the buildings fire safety and evacuation plans required by Section 404. In high-rise buildings, the system shall operate on a minimum of the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. As a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Exit stairways.
3. Each floor.
4. Areas of refuge as defined in Section 1002.1.

Exception: In Group I-1 and I-2 occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

907.6.2.2.3 (IBC [F] 907.6.2.2.3) Alternate uses. The emergency voice/alarm communication system shall be allowed to be used for other announcements, provided the manual fire alarm use takes precedence over any other use.

(Renumber subsequent section)

907.7.3.2 (IBC [F] 907.7.3.2) (Supp) High-rise buildings. In buildings with a floor used for human occupancy that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, a separate zone by floor shall be provided for ~~all~~ each of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

907.7.4 (IBC [F] 907.7.4) (Supp) Access. Access shall be provided to each ~~detector~~ fire alarm device and notification appliance for periodic inspection, maintenance and testing.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

907.2.5 Justification – The added language is for consistency with the language for other Occupancy Groups.

907.2.6 Justification – The added language is for consistency with the language for other Occupancy Groups.

907.2.6.3.3 Exceptions Justification – The added language is to identify where to find more information regarding Use Conditions 2 and 3. This improves usability of the Code.

907.2.7.1 Justification – The language is relocated to section 907.6.2.2 for clarity so that emergency voice alarm system requirements are grouped in one area.

907.2.12.2 Justification – The added language is for clarity indicating that fire department radio systems are allowed as a substitute for two-way fire department communications systems.

907.6 Justification – This exception is in direct conflict with the requirements of Section 907.4 which requires occupant notification.

907.6.2.1.1 Justification - The added language is for consistency with the language throughout this code.

907.6.2.1.2 Justification – The decibel level is revised to be in alignment with NFPA 72 and A.D.A.

907.6.2.2.3 Justification – The language is relocated from section 907.2.7.1 for clarity so that emergency voice alarm system requirements are grouped in one area.

907.6.2.2.3.4 Justification – Renumbering to incorporate the relocated emergency voice/alarm communication requirement.

907.7.4 Justification – The added language is for clarity indicating that access is to be provide for all fire alarm devices for servicing

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee agreed that the change provides a logical, needed refinement and correlation of the language used in all occupancy group fire alarm requirements which were part of the reorganization of Section 907 in the last cycle.

Assembly Action:

None

Final Hearing Results

F164-07/08

AS

Code Change No: **F165-07/08**

Original Proposal

Sections: 907.2.6 (IBC [F] 907.2.6)

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.2.6 (IBC [F] 907.2.6) (Supp) Group I. A manual fire alarm system shall be installed in Group I occupancies. An automatic smoke detection system shall be provided in accordance with Sections 907.2.6.1 and 907.2.6.2.

Exceptions:

1. Manual fire alarm boxes in resident or patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurses= control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.5.2 are not exceeded.
2. Occupant notification systems are not required to be activated where private mode signaling installed in accordance with NFPA 72 is approved by the fire code official.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need further clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),
Shane Clary (Bay Alarm)
John Guhl (Office of the State Fire Marshal; California),
Tom Hammerberg (Automatic Fire Alarm Association, Inc),
Bill Hopple (SimplexGrinnell),
Dan Nichols (Building Codes Division; State of New York),
Jim Schifiliti (Fire Safety Consultants, Inc)

The new exception is to clearly allow only notifying the staff instead of all building occupants in the event of a fire. This is a common practice in Group I occupancies, and the current language would not allow that.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that there is no need to notify of a fire alarm the occupants who are incapable of taking meaningful evacuation action in response to it and that the fire code official should have specific approval authority in that decision.

Assembly Action:

None

Final Hearing Results

F165-07/08

AS

Code Change No: **F166-07/08**

Original Proposal

Sections: 907.2.9.1 (IBC [F] 907.2.9.1)

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing himself

Revise as follows:

907.2.9.1 (IBC [F] 907.2.9.1) (Supp) Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group R-2 occupancies where:

1. Any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge;
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit; or
3. The building contains more than 16 dwelling units or sleeping units.

Exceptions:

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, exit court or yard.
- ~~2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.~~
- ~~2. A manual fire alarm system is not required in buildings not more than two stories in height that do not have interior corridors serving dwelling units provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1023.6, Exception 4.~~
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1023.6, Exception 4.

Reason: This proposal returns the exceptions in Section 907.2.9.1 to the 2006 IFC text. These exceptions were changed as part of Proposal F122-06/07, which according to the proponent was not intended to make technical changes to the 2006 requirements. However, closer scrutiny revealed that the change significantly reduced the scope of the old Exception 3 (which was revised and renumbered as Exception 2 in the 2007 Supplement) by limiting application to only allow elimination of manual alarms, as opposed to the entire alarm system, and only in buildings not exceeding two stories in height.

Likewise, the change to the old Exception 1 (which was revised and incorporated into Exception 2 in the 2007 Supplement) significantly reduced the scope of Exception 1 by only allowing elimination of manual fire alarm boxes, as opposed to the entire alarm system. Because Proposal F122 provided no justification for making these technical changes, this proposal simply reverses unsubstantiated revisions to the code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the change returning the exceptions to the 2006 edition Section 907.2.9.1 is appropriate because the reorganization of Section 907 in the last cycle did not intend to make any technical changes but did in this case, without any justification.

Assembly Action:

None

Final Hearing Results

F166-07/08

AS

Code Change No: F167-07/08

Original Proposal

Sections: 907.2.10 through 907.2.10.3 (New) [IBC [F] 907.2.10 through [F] 907.2.10.3 (New)], 907.3.3.4

Proponent: Gene Boecker, Code Consultants, Inc.

1. Add new text as follows:

907.2.10 (IBC [F] 907.2.10) Group R-4. Fire alarm systems and smoke alarms shall be installed in Group R-4 occupancies as required in Sections 907.2.10.1 through 907.2.10.3.

907.2.10.1 (IBC [F] 907.2.10.1) Manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group R-4 occupancies.

Exceptions:

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by at least 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, exit court or yard.
2. Manual fire alarm boxes are not required throughout the building when the following conditions are met:
 - 2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 2.2. The notification appliances will activate upon sprinkler water flow; and
 - 2.3. At least one manual fire alarm box is installed at an approved location.
3. Manual fire alarm boxes in resident or patient sleeping areas shall not be required at exits where located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.5.2.1 are not exceeded.

907.2.10.2 (IBC [F] 907.2.10.2) Automatic smoke detection system. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.6 shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping units and kitchens.

Exceptions:

1. Smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

2. An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

907.2.10.3 (IBC [F] 907.2.10.3) Smoke alarms. Single- and multiple-station smoke alarms shall be installed in accordance with Section 907.2.11.

(Renumber subsequent sections)

2. Revise as follows:

907.3.3.4 (Supp) Group R-4. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-4 residential care/assisted living facilities in accordance with Section 907.2.10.

Exceptions:

1. Where there are interconnected smoke alarms meeting the requirements of Section ~~907.2.10~~ 907.2.11 and there is at least one manual fire alarm box per floor arranged to sound continuously the smoke alarms.
2. Other manually activated, continuously sounding alarms approved by the fire code official.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need further clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),
Shane Clary (Bay Alarm)
John Guhl (Office of the State Fire Marshal; California),
Tom Hammerberg (Automatic Fire Alarm Association, Inc),
Bill Hopple (SimplexGrinnell),
Dan Nichols (Building Codes Division; State of New York),
Jim Schifiliti (Fire Safety Consultants, Inc)

This is to add a requirement for new Group R-4 occupancies. Reviewing the occupancy categories in Chapter 3, a Group R-4 can be considered either a small Group I-1 or a Group R-2 with occupants that have special needs or limitations. A further review finds that both Group I-1 and Group R-2 occupancies both have fire alarm requirements for new buildings, but Group R-4 does not. The lack of needed requirements in the current IBC/IFC is very evident. The code change proposal will not increase the cost of construction since IFC Section 907.3 requires a fire alarm retroactively in Group R-4 occupancies. As the IFC currently reads, a one day old R-4 would technically be required to retrofit an automatic or manual alarm system into the building, which doesn't make sense.

The proposed language is based on the Group R-2 requirements for manual fire alarm systems and Group I-1 requirements for automatic smoke detection systems. The proposed language adds exceptions that would apply to Group I-1 occupancies, such as additional manual pull box exceptions for sprinklered sleeping areas and nurses stations, and removes the 16 dwelling unit requirement for manual fire alarms since an Group R-4 cannot have more than 16 occupants.

The proposed language also modifies the retroactive Group R-4 requirements to reference back to the new requirements. Currently, there is not clear direction on what is required for a fire alarm system retroactively. The reference to the new section provides needed requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee felt that the change provides a needed refinement and correlation of the fire protection requirements for new Group R-4 occupancies, which are currently in conflict with the alarm requirements for existing Group R-4 occupancies. Currently, existing Group R-4 occupancies are required to be provided with an automatic or manual fire alarm whereas new Group R-4 occupancies are not required to be so equipped.

Assembly Action:

None

Final Hearing Results

F167-07/08

AS

Code Change No: **F168-07/08**

Original Proposal

Sections: 907.2.12 (IBC [F] 907.2.12)

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.2.12 (IBC [F] 907.2.12) (Supp) High-rise buildings. Buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 907.2.21 and Section 412 of the *International Building Code*.
2. Open parking garages in accordance with Section 406.3 of the *International Building Code*.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the *International Building Code*.
4. Low-hazard special occupancies in accordance with Section 503.1.1 of the *International Building Code*.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415 of the *International Building Code*.
6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the ~~paging system~~ emergency voice/alarm communication system.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need further clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hoppie (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

All other fire alarm systems in high-rises require the use of an emergency voice/alarm communication system. Paging systems do not have supervised wiring or specific secondary power requirements. There is no assurance this system will work when it is needed to work. NFPA 72 and this Code allow emergency voice/alarm systems to be used for other purposes, such as paging. In addition, NFPA 72 does not require emergency voice/alarm systems to operate automatically, so the operation will be the same with the added benefit of having the circuits supervised and the ability to operate on secondary power in the event of a building power failure. Currently there is no requirement for paging systems to be on an emergency power source.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it corrects the type of voice system suitable for high-rise buildings to a more reliable, supervised voice alarm communications system.

Assembly Action:

None

Final Hearing Results

F168-07/08

AS

Code Change No: F169-07/08

Original Proposal

Sections: 907.2.12.1, 907.2.12.1.1 (New), 907.2.12.1.2 (New) [IBC [F] 907.2.12.1, [F] 907.2.12.1.1 (New), [F] 907.2.12.1.2 (New)]

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.2.12.1 (IBC [F] 907.2.12.1) (Supp) Automatic fire detection. Automatic smoke detection in high rise buildings shall be in accordance with Sections 907.2.12.1.1 and 907.2.12.1.2.

907.2.12.1.1 (IBC [F] 907.2.12.1.1) Area smoke detection. Area smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section shall operate the emergency voice/alarm communication system in accordance with Section 907.6.2.2. Smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room which is not provided with sprinkler protection, ~~elevator machine rooms, and in elevator lobbies.~~
2. In each elevator machine room and in elevator lobbies.

907.2.12.1.2 (IBC [F] 907.2.12.1.2) Duct smoke detection. Duct smoke detectors complying with Section 907.4.1 shall be located as follows:

- ~~2-~~ 1. In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m³/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet.
- ~~3-~~ 2. At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies, a smoke detector is allowed to be used in each return-air riser carrying not more than 5,000 cfm (2.4m³/s) and serving not more than 10 air-inlet openings.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

CODE CHANGES RESOURCE COLLECTION — INTERNATIONAL FIRE CODE

Justification for proposal for Section 907.2.12.1: Item 2 is added to avoid confusion with the requirements of item 1. Elevator machine rooms and elevator lobbies are required to have smoke detectors for elevator recall even if these locations are sprinklers. By moving them to a separate line, it should reduce confusion in interpretations in this code.

Justification for proposal for Section 907.2.12.1.2: A separate duct smoke detection section is being added to avoid confusion and to clarify that the type of smoke detector used shall be approved for duct applications (higher air velocities, temperatures and humidity) and to allow the use of a supervisory signal in lieu of a fire alarm signal (emergency voice alarm/communication notification).

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides needed clarification of the automatic fire detection and duct smoke detection systems for high-rise buildings.

Assembly Action:

None

Final Hearing Results

F169-07/08

AS

Code Change No: F172-07/08

Original Proposal

Sections: 907.2.18.1 (IBC [F] 907.2.18.1)

Proponent: Gene Boecker, Code Consultants, Inc.

Delete without substitution:

~~**907.2.18.1 (IBC [F] 907.2.18.1) (Supp) Public address system.** Where a fire alarm system is not required by Section 907.2, a public address system shall be provided which shall be capable of transmitting voice communications to the highest level of exit discharge serving the underground portions of the structure and all levels below.~~

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need further clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),
Shane Clary (Bay Alarm)
John Guhl (Office of the State Fire Marshal; California),
Tom Hammerberg (Automatic Fire Alarm Association, Inc),
Bill Hoppole (SimplexGrinnell),
Dan Nichols (Building Codes Division; State of New York),
Jim Schifiliti (Fire Safety Consultants, Inc)

This is a 'do-loop' and old language. The 'do-loop' is that an automatic smoke detection system is required by 907.2 (namely 907.2.17), so 907.2.18.1 is not needed. Also, if a reason was found where an automatic detection system isn't needed, the PA system is in direct conflict with the EVACS system found in 907.2.18 for deep underground buildings.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which deletes an unneeded and unenforceable section.

Assembly Action:**None**

Final Hearing Results

F172-07/08

AS

Code Change No: F173-07/08

Original Proposal

Sections: 907.2.21 (IBC [F] 907.2.21)**Proponent:** Gene Boecker, Code Consultants, Inc.**Revise as follows:**

907.2.21 (IBC [F] 907.2.21) (Supp) Airport traffic control towers. An automatic fire detection system that activates the occupant notification system in accordance with Section 907.6 shall be provided in airport control towers in all occupiable and equipment spaces.

Exception: Audible appliances shall not be installed within the control tower cab.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

The proposed changes to 907.2.21 are to provide clarification as to where fire alarm devices and appliances are required within airport traffic control towers. Equipment spaces have been added as these may be areas within an airport traffic control tower where a fire may begin, but may not be occupied. Early warning of a fire in these areas is required so as to alert the occupants of occupancy and emergency forces.

Due to the nature of the operation of airport traffic control towers, the notification of occupants within the cab is to be by visual notification appliances only.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Modified**

Modify the proposal as follows:

907.2.21 (IBC [F] 907.2.21) (Supp) Airport traffic control towers. An automatic fire ~~smoke~~ detection system that activates the occupant notification system in accordance with Section 907.6 shall be provided in airport control towers in all occupiable and equipment spaces.

Exception: Audible appliances shall not be installed within the control tower cab.

Committee Reason: The proposal was approved because the committee felt that it recognizes the critical need for quiet in air traffic control tower cabs. The modification provides correlation of the terminology in this section with the terminology established by code change F163-07/08.

Assembly Action:

None

Final Hearing Results

F173-07/08

AM

Code Change No: F174-07/08

Original Proposal

Sections: 907.2.22 (IBC [F] 907.2.22)

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.2.22 (IBC [F] 907.2.22) (Supp) Battery rooms. An automatic smoke detection system shall be installed in areas containing stationary storage battery systems with a liquid capacity of more than 50 gallons (189 L). ~~The detection system shall activate a local alarm signal at a constantly attended location or shall be supervised by an approved central, proprietary, or remote station service.~~

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),
Shane Clary (Bay Alarm)
John Guhl (Office of the State Fire Marshal; California),
Tom Hammerberg (Automatic Fire Alarm Association, Inc),
Bill Hopple (SimplexGrinnell),
Dan Nichols (Building Codes Division; State of New York),
Jim Schifiliti (Fire Safety Consultants, Inc)

This is in conflict with IFC Section 907.7.5 (Supp) regarding monitoring. A battery room does not have any special conditions that should give the local alarm option since IFC 907.7.5 (Supp) does not permit any other automatic smoke detection system from utilizing a local alarm only.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it deletes text that is in conflict with the alarm monitoring requirements of Section 907.

Assembly Action:

None

Final Hearing Results

F174-07/08

AS

Code Change No: **F175-07/08**

Original Proposal

Sections: 907.3, 907.3.2, 907.3.2.1, 907.3.2.2, 907.3.2.3**Proponent:** Gene Boecker, Code Consultants, Inc.**Revise as follows:**

907.3 (Supp) Where required - retroactive in existing buildings and structures. An approved ~~manual, automatic~~ or ~~manual and automatic~~ fire alarm system shall be installed in existing buildings and structures in accordance with Sections 907.3.1 through 907.3.1.8 and provide occupant notification in accordance with Section 907.6 unless other requirements are provided by other sections of this code.

Exception: Occupancies with an existing, previously approved fire alarm system.

907.3.2 (Supp) Group I. A fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group I occupancies in accordance with Sections 907.3.2.1 through 907.3.2.3.

Exception: Manual fire alarm boxes in resident or patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section ~~907.5.2~~ 907.5.2.1 are not exceeded.

907.3.2.1 (Supp) Group I-1. An automatic ~~or manual~~ fire alarm system shall be installed in existing Group I-1 residential care/assisted living facilities in accordance with Section 907.2.6.1.

Exception: Where each sleeping room has a means of egress door opening directly to an exterior egress balcony that leads directly to the exits in accordance with Section 1014.5, and the building is not more than three stories in height.

907.3.2.2 (Supp) Group I-2. An automatic ~~or manual~~ fire alarm system shall be installed in existing Group I-2 occupancies in accordance with Section 907.2.6.2.

907.3.2.3 (Supp) Group I-3. An automatic ~~or~~ and manual fire alarm system shall be installed in existing Group I-3 occupancies in accordance with Section 907.2.6.3.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),
Shane Clary (Bay Alarm)

John Guhl (Office of the State Fire Marshal; California),
Tom Hammerberg (Automatic Fire Alarm Association, Inc),
Bill Hopple (SimplexGrinnell),
Dan Nichols (Building Codes Division; State of New York),
Jim Schifiliti (Fire Safety Consultants, Inc)

907.3 Justification – The removed language is to clarify and reduce confusion between the code requirements of the specific Occupancy Groups.

907.3.2 Justification – The added language is for consistency with the language for other Occupancy Groups.

907.3.2 Exception Justification – This proposal is editorial to direct the code user to the specific section regarding travel distances.

907.3.2.1 Justification – The removed language is to clarify the code requirements for this Occupancy Group.

907.3.2.2 Justification – The removed language is to clarify the code requirements for this Occupancy Group

907.3.2.3 Justification – The removed language is to clarify the code requirements for this Occupancy Group

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which provides a needed revision to clarify the reorganized Section 907 from code change F122-06/07 by clearly indicating the type of fire alarm system required in Group I.

Assembly Action:

None

Final Hearing Results

F175-07/08

AS

Code Change No: F176-07/08

Original Proposal

Sections: 907.3.3.1, 907.3.3.1.1 (New)

Proponent: Gene Boecker, Code Consultants, Inc.

1. Revise as follows:

907.3.3.1 (Supp) Group R-1 hotel and motel manual fire alarm system. ~~An automatic or~~ manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels more than three stories or with more than 20 sleeping units.

Exception: Buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, exit court or yard.

2. Add new text as follows:

907.3.3.1.1 Group R-1 hotel and motel automatic fire alarm system. An automatic fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels throughout all interior corridors serving sleeping rooms not equipped with an approved, supervised sprinkler system installed in accordance with Section 903.

Exception: An automatic fire detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

This proposal is part of the effort to clean up the language for existing occupancies. The existing language requires an automatic or manual fire alarm system to be installed in existing R-1 hotel occupancies with no explanation of where the automatic fire alarm system would be required. By adding new language in 907.3.3.1.1, it clearly states where an automatic fire alarm system is required. The next exception allows an exception when existing R-1 hotel occupancies have a fire sprinkler system, since the legacy codes allowed the sprinkler exception. This was added to ensure the existing requirements are no more stringent than past new requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

907.3.3.1.1 Group R-1 hotel and motel automatic fire alarm smoke detection system. An automatic ~~fire alarm~~ smoke detection system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels throughout all interior corridors serving sleeping rooms not equipped with an approved, supervised sprinkler system installed in accordance with Section 903.

Exception: An automatic ~~fire~~ smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved because the committee felt that it provides a needed improvement to the re-write effort begun in Section 907 in the last cycle by clearly indicating where an automatic smoke detection system is required in Group R-1 hotels and motels. The modification provides correlation of the terminology in this section with the terminology established by code change F163-07/08.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Gene Boecker, Code Consultants, Inc., representing himself, requests Approval as Modified by this public comment.

Further modify proposal as follows:

907.3.3.1 (Supp) Group R-1 hotel and motel manual fire alarm system. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels more than three stories or with more than 20 sleeping units.

Exceptions:

1. Buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, exit court or yard.

2. Manual fire alarm boxes are not required throughout the building when the following conditions are met:
- 2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2;
 - 2.2. The notification appliances will activate upon sprinkler water flow; and
 - 2.3. At least one manual fire alarm box is installed at an approved location.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: During the committee hearings it was noted that while the intent of this code change was to include the exceptions for existing facilities in like manner to those already in the code for new construction, an exception did not make it through. The added text to 907.3.3.1 accomplished that task for smoke detection but one exception for the manual alarm device was not included in the prior code change. The exception noted above is taken verbatim from that in 907.2.8.1(supp) for new construction (Section 907.2.8.1 in the 2006 IBC).

The modification will harmonize the requirements for existing R-1 occupancies with that for new construction. Without this change it can be construed that the code is more restrictive on existing construction than on new construction. Clearly that is not the intent of the code. Therefore the language is needed for clarification.

Final Hearing Results

F176-07/08

AMPC

Code Change No: F177-07/08

Original Proposal

Sections: 907.3.3.2, 907.3.3.2.1 (New)

Proponent: Gene Boecker, Code Consultants, Inc.

1. Revise as follows:

907.3.3.2 (Supp) Group R-1 boarding and rooming house. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 boarding and rooming houses.

Exception: ~~Buildings that have single-station smoke alarms meeting or exceeding the requirements of Section 907.2.10.1 and where the fire alarm system includes at least one manual fire alarm box per floor arranged to initiate the alarm.~~ Buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, exit court or yard.

2. Add new text as follows:

907.3.3.2.1 Automatic fire alarm system. An automatic fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 boarding and rooming houses throughout all interior corridors serving sleeping units not equipped with an approved, supervised sprinkler system installed in accordance with Section 903.

Exception: Buildings equipped with single-station smoke alarms meeting or exceeding the requirements of Section 907.2.10.1 and where the fire alarm system includes at least one manual fire alarm box per floor arranged to initiate the alarm.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),

Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

This proposal is part of the effort to clean up the language for existing occupancies. The existing language requires an automatic or manual fire alarm system to be installed in existing R-1 boarding and rooming house occupancies with no explanation of where the automatic fire alarm system would be required. By adding new language in 907.3.3.1.1, it clearly states where an automatic fire alarm system is required. The next exception allows an exception when existing R-1 boarding and rooming houses occupancies that have a fire sprinkler system, since the legacy codes allowed the sprinkler exception. This was added to ensure the existing requirements are no more stringent than past new requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

907.3.3.2.1 Automatic ~~fire alarm~~ smoke detection system. An automatic ~~fire alarm~~ smoke detection system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 boarding and rooming houses throughout all interior corridors serving sleeping units not equipped with an approved, supervised sprinkler system installed in accordance with Section 903.

Exception: Buildings equipped with single-station smoke alarms meeting or exceeding the requirements of Section 907.2.10.1 and where the fire alarm system includes at least one manual fire alarm box per floor arranged to initiate the alarm.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved because the committee felt that it provides a needed improvement to the re-write effort begun in Section 907 in the last cycle by clearly indicating where an automatic smoke detection system is required in Group R-1 boarding and rooming houses. The modification provides correlation of the terminology in this section with the terminology established by code change F163-07/08.

Assembly Action:

None

Final Hearing Results

F177-07/08

AM

Code Change No: F178-07/08

Original Proposal

Sections: 907.3.4 through 907.3.4.3

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

907.3.4 (Supp) Single- and multiple-station smoke alarms. Single- and multiple-station smoke alarms shall be installed in existing Group R occupancies and in dwellings not classified as Group R occupancies in accordance with Sections 907.3.4.1 through 907.3.4.3.

907.3.4.1 (Supp) Where required. Existing Group R occupancies and dwellings not classified as Group R occupancies not already provided with single-station smoke alarms shall be provided with single-station smoke alarms. Installation shall be in accordance with Section 907.2.10, except as provided in Sections 907.3.4.2 and 907.3.4.3.

907.3.4.2 (Supp) Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in ~~Group R-1, R-2, R-3 or R-4~~, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

Exceptions:

1. Interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind.
2. Smoke alarms in existing areas are not required to be interconnected where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for interconnection without the removal of interior finishes.

907.3.4.3 (Supp) Power source. In ~~Group R occupancies~~, Single-station smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery back-up shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are permitted to be solely battery operated: in existing buildings where no construction is taking place; in buildings that are not served from a commercial power source; and in existing areas of buildings undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for building wiring without the removal of interior finishes.

Reason: The IPMC requires smoke alarms to be installed in R occupancies and dwellings not considered R occupancies. The IPMC reads as follows:

"**704.2 Smoke alarms.** Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and in dwellings not regulated in Group R occupancies, regardless of occupant load at all of the following locations..."

The IPMC language has been simplified by stating that smoke alarms are required in "all residential occupancies".

Section 907.3.4 in the IFC covers smoke alarms in all other dwelling units and guest rooms. This revision will provide consistency with the requirements in IPMC Section 704.2.

The revisions in Sections 907.3.4.2 and 907.3.4.3 only remove the reference to R-1 through R-4. The inclusion of this terminology is unnecessary, since the charging statements in Sections 907.3.2 and 907.3.2.1 already specify that the subsections apply to "Group R occupancies and dwellings not classified as Group R". It is not necessary to restate the applicable occupancies in every section.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

907.3.4 (Supp) Single- and multiple-station smoke alarms. Single- and multiple-station smoke alarms shall be installed in existing Group R occupancies and in dwellings ~~not classified as Group R occupancies~~ constructed in accordance with the *International Residential Code* in accordance with Sections 907.3.4.1 through 907.3.4.3.

907.3.4.1 (Supp) Where required. Existing Group R occupancies and dwellings ~~not classified as Group R occupancies~~ constructed in accordance with the *International Residential Code* not already provided with single-station smoke alarms shall be provided with single-station smoke alarms. Installation shall be in accordance with Section 907.2.10, except as provided in Sections 907.3.4.2 and 907.3.4.3.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which provides correlation with the IPMC in requiring single- and multiple-station smoke alarms in all dwelling units, whether considered in Group R or not. The committee felt that the modification clarifies that the dwellings intended to be regulated are those constructed in accordance with the IRC.

Assembly Action:

None

Analysis: The original proposal included the language "...and in dwellings not classified as Group R occupancies", which was proposed based upon the *International Property Maintenance Code*. The modification recommended refers to the dwelling units constructed in accordance with the IRC for retroactive requirements for installation of smoke alarms, which has no application given that the IRC requires smoke alarms for all new dwelling units constructed in accordance with the IRC. Further, this modification imposes a retroactive requirement for the IRC that is outside the scope of the IFC. A public comment is recommended to resolve this issue.

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Steve Orlowski, National Association of Home Builders (NAHB), requests Approval as Submitted.

Commenter's Reason: As indicated in the report on public hearings, the modification proposed by the committee would have no application on dwellings constructed under the IRC. The IRC already requires dwelling units to be equipped with smoke alarms in accordance with NFPA 72. The proposed modification does not improve the IFC nor does it correlate with the requirements found in the IPMC as originally proposed by the proponent. Furthermore, the committee's modification to impose retroactive requirements on the IRC was analyzed by ICC staff and was determined to be outside the scope of the IFC.

Final Hearing Results

F178-07/08

AS

Code Change No: F179-07/08

Original Proposal

Sections: 907.4.1 (IBC [F] 907.4.1)

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.4.1 (IBC [F] 907.4.1) (Supp) Duct smoke detectors. Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by 907.2. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location and shall perform the intended fire safety function in accordance with this code and the *International Mechanical Code*. Duct smoke detectors shall not be used as a substitute for required open area detection.

Exceptions:

1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the buildings alarm notification appliances.
2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
 Diane Arend (Office of the State Fire Marshal; California),
 Gene Boecker (Code Consultants, Inc),
 Shane Clary (Bay Alarm)

CODE CHANGES RESOURCE COLLECTION — INTERNATIONAL FIRE CODE

John Guhl (Office of the State Fire Marshal; California),
Tom Hammerberg (Automatic Fire Alarm Association, Inc),
Bill Hopple (SimplexGrinnell),
Dan Nichols (Building Codes Division; State of New York),
Jim Schifiliti (Fire Safety Consultants, Inc)

This section is being modified to clarify that duct smoke detectors shall be listed for the air velocity, temperature and humidity present in the duct system (due to the higher air velocities, temperatures and humidity's inside HVAC ducts) and to correlate with the fire safety function requirements of the International Mechanical Code (HVAC shut-down and fire-smoke damper activation). The language in this proposal is also consistent with the requirements of NFPA 72.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a clear statement that duct smoke detectors must be suitable and listed for the environment within the duct system.

Assembly Action:

None

Final Hearing Results

F179-07/08

AS

Code Change No: F180-07/08

Original Proposal

Sections: 907.5.3, 907.5.3.1 (New) [IBC [F] 907.5.3, [F] 907.5.3.1 (New)]

Proponent: Gene Boecker, Code Consultants, Inc.

Revise as follows:

907.5.3 (IBC [F] 907.5.3) (Supp) Automatic smoke detection. An automatic smoke detection system shall utilize
~~The automatic fire detectors shall be smoke detectors. Where~~ unless ambient conditions prohibit such an
~~installation. of smoke detectors, In spaces where smoke detectors are not utilized, other approved automatic fire~~
~~detection shall be permitted required. Where an automatic sprinkler protection system installed in such areas in~~
~~accordance with Section 903.3.1.1 or 903.3.1.2 is provided and connected to the building fire alarm system,~~
~~automatic heat detection required by this section shall not be required.~~

907.5.3.1 (IBC [F] 907.5.3.1)Automatic sprinkler system. In areas where ambient conditions prohibit the
installation of smoke detectors, an automatic sprinkler system installed in such areas in accordance with Section
903.3.1.1 or 903.3.1.2 and connected to the fire alarm system shall be approved as automatic fire detection.

Exception: Heat detectors for elevator functions.

Reason: Section 907 evolved as an amalgamation of the three legacy codes. Although Section 907 was revised during the last cycle some additional items have been identified that need clarification. The charging statement for Occupancy Groups is inconsistent. The text that indicates what is required is inconsistent. And, the general arrangement of text, although in a logical format, is not consistent with the way many people approach the code. Nor is it consistent with the way that Section 903 is organized. The proposal is an effort made by a group of people from various segments of the industry and code application to correlate, reformat and generally improve usability of the code. Before addressing the technical and formatting changes involved in the proposal, it is worth noting appreciation to the people who helped work on this effort. In alphabetical order:

Bill Aaron (Code Consultants, Inc.),
Diane Arend (Office of the State Fire Marshal; California),
Gene Boecker (Code Consultants, Inc),

Shane Clary (Bay Alarm)
 John Guhl (Office of the State Fire Marshal; California),
 Tom Hammerberg (Automatic Fire Alarm Association, Inc),
 Bill Hopple (SimplexGrinnell),
 Dan Nichols (Building Codes Division; State of New York),
 Jim Schifiliti (Fire Safety Consultants, Inc)

This is an attempt to clean up the language regarding automatic smoke detection. The purpose is to drive home that automatic smoke detection systems use smoke detectors unless they are not able to be installed because of the space being served. Also, it spins off the automatic sprinkler system tradeoff to make it an approved use in place of smoke detectors when the area cannot be served with smoke detectors and the system is connected to the fire alarm system. The exception listed as part of the proposed sprinkler system tradeoff section is so the code user does not utilize this section for the prescriptive elevator requirements in ASME A17.1 for the specialized fire safety functions regulated therein.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that it does not provide the clarity desired by the proponent and would cause confusion in the application of the section.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Gene Boecker, Code Consultants, Inc., representing himself, requests Approval as Modified by this public comment.

Modify proposal as follows:

907.5.3 (IBC [F] 907.5.3) (Supp) Automatic smoke detection. Where an automatic smoke detection system is required it shall utilize smoke detectors unless ambient conditions prohibit such an installation. In spaces where smoke detectors are not utilized due to ambient conditions, either approved automatic fire heat detectors detection shall be required permitted.

907.5.3.1 (IBC [F] 907.5.3.1) Automatic sprinkler system. For conditions other than specific fire safety functions noted in Section 907.4, in areas where ambient conditions prohibit the installation of smoke detectors, an automatic sprinkler system installed in such areas in accordance with Section 903.3.1.1 or 903.3.1.2 and that is connected to the fire alarm system shall be approved as automatic fire heat detection.

~~**Exception:** Heat detectors for elevator functions.~~

Commenter's Reason: The language intent in the original proposal is incorporated into the single section. Consistent with the other code changes this year, the distinction is made between smoke detection and "fire alarm." The application whereby heat detection is permitted is included but clarified so that sprinklers cannot be used as a substitution for specific heat detectors required in Section 907.4. This is consistent with current intent.

While there may yet be a need to clean up some of the interpretation applications it is important to get the "fire alarm" language out of the code since it is being deleted elsewhere and will no longer have relevance. This maintains the status quo in application while cleaning up the language for the 2009 edition.

Final Hearing Results

F180-07/08

AMPC

Code Change No: F189-07/08

Original Proposal

Sections: 909.11 (IBC [F] 909.11)

Proponent: Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

Revise as follows:

909.11 (IBC [F] 909.11) (Supp) Power systems. The smoke control system shall be supplied with two sources of power. Primary power shall be the normal building power systems. Secondary power shall be from an approved standby source complying with the International Code Council *Electrical Code Administrative Provisions*. The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gear and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour fire barriers constructed in accordance with Section 706 of the *International Building Code* or horizontal assemblies constructed in accordance with Section 711 of the *International Building Code*, or both. ~~Power distribution from the two sources shall be by independent routes.~~ Transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power. The systems shall comply with this code or the International Code Council *Electrical Code Administrative Provisions*.

Reason: This deletion is being recommended from a practical standpoint. The section requires that the stand-by power source and the transfer switches be in a room separate from the normal power transformers and switch gear.

Both the normal power supply and the stand-by power supply are controlled by the transfer switches. The power to the various devices and equipment that make up the smoke control system are distributed from the transfer switches.

That being the case, how can you distribute power from the two sources independently? To do so would require the power supply to go to a transfer switch located at each device or piece of equipment.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it deletes problematic, unenforceable code text.

Assembly Action:

None

Final Hearing Results

F189-07/08

AS

Code Change No: F193-07/08

Original Proposal

Sections: 910.2 (IBC [F] 910.2)

Proponent: Rick Thornberry, PE, The Code Consortium, representing AAMA Smoke Vent Task Group

Revise as follows:

910.2 (IBC [F] 910.2) Where required. Smoke and heat vents shall be installed in the roofs and draft curtains shall be installed on the underside of roofs of one-story buildings or portions thereof occupied for the uses set forth in Sections 910.2.1 through 910.2.3.

Reason: This is an editorial clarification to provide for a charging requirement that draft curtains are required to be installed under the provisions of this section as are smoke and heat vents.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee felt that the proposal could create confusion in that it appears to require draft curtain in all cases whereas Chapter 23 allows certain exceptions. It was also felt that that the subject matter should be located in Section 910.3.5.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Rick Thornberry, The Code Consortium, Inc., representing AAMA Smoke Vent Task Group, requests Approval as Modified by this public comment.

Replace proposal as follows:

910.3.5 (IBC [F] 910.3.5) Draft curtains. Where required by Table 910.3, draft curtains shall be ~~provided~~ installed on the underside of the roof in accordance with this section.

Exception: Where areas of buildings are equipped with ESFR sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the conventional sprinklers.

Commenter's Reason: Based on the Committee's suggestion made in its Reason for disapproval of the original code change proposal, we are submitting this Public Comment. Instead of revising Section 910.2, we are proposing to revise Section 910.3.5 Draft Curtains as indicated in the Committee's Reason statement. This is an editorial clarification which indicates that the draft curtains are to be installed on the underside of the roof. Although this may be obvious, there is no definition for draft curtain, nor any other indication that draft curtains are to be installed on the underside of roofs. However, it is a basic assumption made by designers and installers who provides draft curtains in conjunction with smoke and heat vents.

Final Hearing Results

F193-07/08

AMPC

Code Change No: F194-07/08

Original Proposal

Table 910.3 (IBC [F] Table 910.3)

Proponent: Rick Thornberry, PE, The Code Consortium, representing AAMA Smoke Vent Task Group

Revise table footnote as follows:

**TABLE 910.3 (IBC TABLE [F] 910.3)
REQUIREMENTS FOR DRAFT CURTAINS AND SMOKE AND HEAT VENTS^a**

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929m².

- a. ~~Requirements for rack storage heights in excess of those indicated shall be in accordance with Chapter 23. For solid-piled storage heights in excess of those indicated, an approved engineered design shall be used.~~
- b. The distance specified is the maximum distance from any vent in a particular draft curtained area to walls or draft curtains which form the perimeter of the draft curtained area.
- c. Where draft curtains are not required, the vent area to floor area ratio shall be calculated based on a minimum draft curtain depth of 6 feet (Option 1).
- d. "H" is the height of the vent, in feet, above the floor.

Reason: Chapter 23 does not contain specific requirements for smoke and heat vents. It refers to Section 910.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee felt that Note a serves valuable function in directing the code user to Chapter 23, notable Section 2308.5, and should be retained

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Rick Thornberry, The Code Consortium, Inc., representing AAMA Smoke Vent Task Group, requests Approval as Modified by this public comment.

Replace proposal as follows:

**TABLE 910.3 (IBC TABLE [F] 910.3)
REQUIREMENTS FOR DRAFT CURTAINS AND SMOKE AND HEAT VENTS^a**

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m²

- a. Additional requirements for rack storage heights in excess of those indicated shall be in accordance with Chapter 23. For solid-piled storage heights in excess of those indicated, an approved engineered design shall be used.
- b. The distance specified is the maximum distance from any vent in a particular draft curtained area to walls or draft curtains which form the perimeter of the draft curtained area.
- c. Where draft curtains are not required, the vent area to floor area ratio shall be calculated based on a minimum draft curtain depth of 6 feet (Option 1).
- d. "H" is the height of the vent, in feet, above the floor.

Commenter's Reason: We agree with the Committee's concerns expressed in their Reason for disapproving this code change that the reference to Chapter 23 for rack storage heights in excess of those indicated in the table as noted in Footnote a serves a valuable function. However, the purpose for us deleting the reference was that there were no specific requirements that addressed smoke and heat vents and/or draft curtains. Therefore, we felt that it was an unnecessary reference within the context of the Table and Section 910. To remedy this and to clarify the code reference, we have proposed this Public Comment which slightly revises Footnote a to indicate that Chapter 23 should be referred to for "additional" requirements for those rack storage heights in excess of those indicated in the table. This will alert the user of the code to the fact that there are other requirements that should be considered in addition to those for the smoke and heat vents specified in Table 910.3 for these very rack storage facilities. Yet they will not need to refer to Chapter 23 for any additional criteria for smoke and heat vents or draft curtains.

Final Hearing Results

F194-07/08

AMPC

Code Change No: F195-07/08

Original Proposal

Table 910.3 (IBC [F] Table 910.3)

Proponent: Rick Thornberry, PE, The Code Consortium, representing AAMA Smoke Vent Task Group

Revise table column heading and footnote as follows:

**TABLE 910.3 (IBC TABLE [F] 910.3)
REQUIREMENTS FOR DRAFT CURTAINS AND SMOKE AND HEAT VENTS^a**

OCCUPANCY GROUP AND COMMODITY CLASSIFICATION	DESIGNATED STORAGE HEIGHT (feet)	MINIMUM DRAFT CURTAIN DEPTH (feet)	MAXIMUM AREA FORMED BY DRAFT CURTAINS (square feet)	VENT-AREA-TO FLOOR-AREA RATIO ^c	MAXIMUM SPACING OF VENT CENTERS (feet)	MAXIMUM DISTANCE TO FROM VENTS FROM TO WALL OR DRAFT CURTAIN ^b (feet)
---	---	--	---	--	---	--

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929m².

- a. Requirements for rack storage heights in excess of those indicated shall be in accordance with Chapter 23. For solid-piled storage heights in excess of those indicated, an approved engineered design shall be used.
- b. ~~The distance specified is the maximum distance from any vent in a particular draft curtained area to walls or draft curtains which form the perimeter of the draft curtained area.~~ Vents adjacent to walls or draft curtains shall be located within a horizontal distance not greater than the maximum distance specified in this column as measured perpendicular to the wall or draft curtain that forms the perimeter of the draft curtained area.
- c. Where draft curtains are not required, the vent area to floor area ratio shall be calculated based on a minimum draft curtain depth of 6 feet (Option 1).
- d. "H" is the height of the vent, in feet, above the floor.

Reason: This proposal is for editorial clarity. Not every vent is required to be within the specified maximum distance from a wall or draft curtain. That limitation is only applicable to those vents adjacent to the walls or draft curtains and not to other vents located in the middle of the draft curtained area.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which clarifies the intent of the code with regard to vent spacing.

Assembly Action:

None

Final Hearing Results

F195-07/08

AS

Code Change No: F198-07/08

Original Proposal

Sections: 910.3.4 (IBC [F] 910.3.4)

Proponent: Rick Thornberry, PE, The Code Consortium, representing AAMA Smoke Vent Task Group

Revise as follows:

910.3.4 (IBC [F] 910.3.4) (Supp) Vent locations. Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers. Vents shall be uniformly located within the roof area ~~above high-piled storage areas~~, with consideration given to roof pitch, draft curtain location, sprinkler location and structural members.

Reason: Editorial clarification. This requirement should apply in all cases, not just for high piled storage areas.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee felt that the proposal could lead to vents being required throughout all roof areas, even where they would serve no useful purpose.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Rick Thornberry, The Code Consortium, Inc., representing AAMA Smoke Vent Task Group, requests Approval as Modified by this public comment.

Modify proposal as follows:

910.3.4 (IBC [F] 910.3.4) (Supp) Vent locations. Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers. Vents shall be uniformly located within the roof in the areas of the building where the vents are required to be installed by Section 910.2 with consideration given to roof pitch, draft curtain location, sprinkler location and structural members.

Commenter's Reason: This Public Comment responds to the Committee's Reason for disapproving the original code change proposal. The Committee was concerned that the original revisions to this section would have caused vents to be required throughout all roof areas in the building, even in areas where they would serve no useful purpose or were not otherwise required. So we have revised the code change proposal so that it clearly indicates that the vents are only to be installed in those areas of the building where the vents are required by Section 910.2. The important point of this revision is that the vents must be uniformly located within the roof in those areas where vents are to be provided and not just where they are located above high-piled storage areas.

Final Hearing Results

F198-07/08

AMPC

Code Change No: F199-07/08

Original Proposal

Sections: 910.3.5 (IBC [F] 910.3.5)

Proponent: Edwin M. Berkel, CFI, Mehlville Fire Protection District, representing himself

Revise as follows:

910.3.5 (IBC [F] 910.3.5) Draft curtains. Where required, draft curtains shall be provided in accordance with this section.

Exception: Where areas of buildings are equipped with ESFR sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the ~~conventional~~ standard response sprinklers

Reason: The existing code text makes use of an undefined term, "conventional sprinklers". This code change corrects that by using "standard response sprinklers" which is the correct term utilized in the reference standards.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which provides clarification by using correct sprinkler terminology in the correct manner.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories, Inc., requests Approval as Modified by this public comment.

Modify proposal as follows:

910.3.5 (IBC [F] 910.3.5) Draft curtains. Where required, draft curtains shall be provided in accordance with this section.

Exception: Where areas of buildings are equipped with ESFR sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the ~~standard response~~ non-ESFR sprinklers.

Commenter's Reason: The approved code text uses "standard response sprinklers" which is the correct term utilized in the reference standards, but might limit some of the sprinkler response technology. The intent is to limit the early response of sprinklers using different response technology and this change will provide an unlimited array of sprinklers that maybe found in High-piled storage arrangement.

Final Hearing Results

F199-07/08

AMPC

Code Change No: **F201-07/08**

Original Proposal

Sections: 912.2.1 (IBC [F] 912.2.1)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

912.2.1 (IBC [F] 912.2.1) Visible location. Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved by the fire ~~code official~~ chief.

Reason: Item F132-06/07, Section 912.2 received a lengthy debate and committee modification which subsequently received membership approval at the final action hearings in NY. The final revision to IFC 912.2 requires that the FDC is located as required by the fire chief and reads as follows:

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to supply the system will not obstruct access to the buildings for other fire apparatus. The location of fire department connections shall be approved by the fire chief.

The proposed revision to IFC 912.2.1 merely correlates with the revision to IFC 912.2 and eliminates conflict between the two sections.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which properly changes the approval authority from the fire code official to the fire chief since fire department connection location is a fire department operational issue.

Assembly Action:

None

Final Hearing Results

F201-07/08

AS

Code Change No: **F202-07/08**

Original Proposal

Sections: 912.4 (IBC [F] 912.4)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

912.4 (IBC [F] 912.4) Signs. An ~~metal~~ approved permanent sign with ~~raised~~ letters at least 1 inch (25 mm) in size shall be mounted on ~~all new and existing~~ fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.

Reason: Many sprinkler and standpipe systems were installed prior to current standards. Furthermore, standpipe systems are currently allowed to be manual or automatic in non high-rise buildings as well as many buildings have partial sprinkler or standpipe systems.

The purpose of the sign is to provide the responding firefighters with the correct information on which portions of a building are served by the fire department connection. Many buildings include multiple sets of fire department connections which are not interconnected. Some examples include:

1. Separate connections for the building sprinkler system and the dry standpipe system in open parking structures
2. Rehabilitated buildings where a sprinkler system is only installed on certain floors
3. A high-rise building constructed prior to the adoption of a building code that has a manual wet system

Signs are also required in NFPA 14, and this proposal will allow the raised letter sign to be provided as indicated in NFPA 14 or provide another sign. Many departments are requiring other signs which are more descriptive and provide more information than the minimal sign required in NFPA 14.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

912.4 (IBC [F] 912.4) Signs. An ~~metal approved permanent~~ sign with raised letters at least 1 inch (25 mm) in size shall be mounted on ~~all new and existing~~ fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide important information to the fire department as to which of multiple fire department connections should be used. The modification retains the current text of the first sentence of the section for correlation with the requirements of NFPA 13.

Assembly Action:

None

Final Hearing Results

F202-07/08

AM

Code Change No: **F203-07/08**

Original Proposal

Sections: 913.2.1 (New) [IBC 913.2.1 (New)]

Proponent: Phillip Brazil, PE, Reid Middleton, Inc., representing himself

1. (IFC) Add new text as follows:

913.2 Protection against interruption of service. The fire pump, driver, and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions.

913.2.1 Protection of fire pump rooms. Rooms where fire pumps are located shall be separated from all other areas of the building in accordance with the *International Building Code*.

2. (IBC) Add new text as follows:

[F] 913.2 [Supp] Protection against interruption of service. The fire pump, driver, and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions.

[F] 913.2.1 Protection of fire pump rooms. Fire pumps shall be located in rooms that are separated from all other areas of the building by 2-hour fire barriers constructed in accordance with Section 706 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:

1. In other than high-rise buildings, separation by 1-hour fire barriers constructed in accordance with Section 706 or 1-hour horizontal assemblies constructed in accordance with Section 711, or both, shall be permitted in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Separation is not required for fire pumps physically separated in accordance with NFPA 20.

Reason: The Standard for the Installation of Stationary Pumps for Fire Protection, NFPA 20, specifies protection for indoor fire pumps by means of physical or fire separation. I assume the 2007 edition of NFPA 20 will be the edition that is referenced in the 2009 IBC and IFC. Section 5.12.1.1 of NFPA 20 specifies physical separation or protection by fire-rated construction. I interpret "fire-rated construction" to be a reference to separation by a fire barrier, horizontal assembly, or both. Section 5.12.1.1.1 specifies a 2-hour fire-resistance rating for the separation in high-rise buildings but is silent on the physical separation distance. Table 5.12.1.1.2 specifies the physical separation distances and fire-resistance ratings for nonhigh-rise buildings. A 2-hour fire-resistance rating for the separation is specified except for fully sprinklered buildings and pump rooms/houses (i.e., equipped throughout with an automatic sprinkler system complying with NFPA 13 or NFPA 13R). A minimum physical separation distance of 50 feet is specified in all cases and, presumably, would apply when physical separation is utilized in a high-rise building.

By referencing NFPA 20 in the IBC, the physical or fire separation specified in Section 5.12.1.1 of NFPA 20 becomes a construction requirement. The purpose of this proposal is to specify the fire separation as a requirement in the IBC so that designers and building officials are made aware of it. The proposed language will also clarify what is required. The reference to separation by "fire-rated construction" in NFPA 20 does not make it clear what is required for protection of the separating walls and horizontal assemblies at openings, penetrations, joints, ducts and air transfer openings. It is also silent on requirements for continuity, where one or more of the separating walls is an exterior wall, and where one of the horizontal assemblies is a roof assembly. Specifying fire barriers and horizontal assemblies makes it clear what is required by virtue of their provisions in Sections 706 and 711, respectively.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide an increased level of fire pump reliability by enclosing them in a fire-resistance rated pump room using requirements correlated with NFPA 20.

Assembly Action:

None

Final Hearing Results

F203-07/08

AS

Code Change No: **F206-07/08**

Original Proposal

Section: 1027.5

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

1027.5 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.

Exception: Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.

2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below the level of exit discharge, or buildings with 1,000 or more total occupants.
3. Group E in interior stairs, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.

Exception: Buildings used only during daylight hours which are provided with windows for natural light in accordance with the *International Building Code*.

5. Group I.
6. Group M.

Exception: Buildings less than 3,000 square feet (279 m²) in gross sales area on one story only, excluding mezzanines.

7. Group R-1.

Exception: Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

Exception: Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

9. Group R-4.

Exception: Where each sleeping unit has direct access to the outside of the building at ground level.

1027.5.1 Emergency power duration and installation. In other than Group I-2, the emergency power system shall provide power for not less than 60 minutes and consist of storage batteries, unit equipment or an on-site generator. In Group I-2, the emergency power system shall provide power for not less than 90 minutes and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.

Reason: Group I-2 occupancies contain patients who need additional time to evacuate. In many situations the patients are incapable of evacuation on their own and therefore become dependent on someone else to evacuate them.

This proposal takes that additional time into account by extending the duration of the secondary power supply for the emergency exitway lighting. This additional 30 minutes provides time to allow for staff to evacuate a patient on a gurney and then return to assist in the evacuation of the next patient. By providing this additional time, it ensures that the lighting system will be effective during the evacuation process.

This proposal will correlate the IFC with Federal regulations for these facilities.

Cost Impact: The code change proposal will increase the cost of construction.

Analysis: This proposal is based on Section 1027 – Means of Egress for Existing Buildings of the IFC 2006 edition.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide an expanded duration of emergency lighting from 60 to 90 minutes which will correlate with Section 1011.5.3, the National Electrical Code and federal regulations. This will provide more evacuation time in occupancies where the occupants cannot self-evacuate.

Assembly Action:

None

Final Hearing Results

F206-07/08

AS

Code Change No: **F209-07/08**

Original Proposal

Table 1027.17.2

Proponent: William E. Koffel, Koffel Associates, Inc.

Revise table as follows:

**TABLE 1027.17.2
COMMON PATH, DEAD-END AND TRAVEL DISTANCE LIMITS (by occupancy)**

OCCUPANCY	COMMON PATH LIMIT		DEAD-END LIMIT		TRAVEL DISTANCE LIMIT	
	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)
Group E	75	75	20	20 50	200	250
Group I-1	75	75	20	20 50	200	250
Group U	75	75	20	20 50	200	250

(Portions of table and footnotes not shown remain unchanged)

Reason: The allowance of 50 foot dead-end corridors in fully sprinkler protected Group E, Group I-1, and Group U buildings is consistent with other national codes, including the 2006 Edition of NFPA 101 Table A.7.6, the 2006 Edition of NFPA 5000, the 2006 Edition of the International Existing Building Code (2006 IEBC), and Section 1017.3 of the 2007 Supplement to the 2006 International Fire Code (IFC) and the 2006 International Building Code (IBC). In other than Group A and H occupancies, the 2006 IEBC permits newly created dead-end corridors of 50 feet on floors protected with an automatic sprinkler system in accordance with the 2006 International Building Code (IBC) for Alterations – Level 2 (605.6 exc. 4) and Alterations – Level 3 (705.1). In addition, Section 812.4.1.1 (Means of egress for change in occupancy to higher hazard) of the 2006 IEBC references Section 605.6 for existing dead-end corridors. Further, when the change of occupancy complies with Section 812.3 of the 2006 IEBC, Section 812.4.1.2 (Means of egress for change of use to equal or lower hazard category) of the 2006 IEBC allows existing dead-end corridors no matter what length to remain regardless of the presence of an automatic sprinkler system. Further, because of the 2007 Supplement language to Section 1017.3 of the 2006 IFC, there is now a conflict within the IFC itself for means of egress. The Supplement language for Section 1017.3 of the IFC and for Section 1017.3 of the IBC permits dead-end corridors of 50 feet in Group E, Group I-1, and Group U buildings with an automatic sprinkler system in accordance with Section 903.3.1.1 of both codes, respectively.

Once a new building is given its Use & Occupancy approval, any future work in the building can reference the 2006 IEBC and 2006 IFC requirements. The lack of conformity between the dead-end corridor requirements of the 2006 IFC and the 2006 IEBC creates a conflict when future Alteration level work occurs. Amending Table 1027.17.2 of the 2006 IFC to allow 50 foot dead-end corridors in Group E, Group I-1 and Group U buildings, where the building is protected throughout with an automatic sprinkler system in accordance with NFPA 13 requirements allows for consensus between the IFC, the IBC, and the IEBC.

Group U buildings historically do not have significant occupant loads. Occupant load factors and travel distance limitations are consistent with Group F and S occupancies as indicated in Table 1004.1.1 and Table 1016.1 of the 2006 IFC. Further, Table 1027.17.2 of the 2006 IFC permits 50 foot dead-end corridors for Group F and S occupancies regardless of the presence of an automatic sprinkler system. Group U buildings also tend to be smaller than Group F and S buildings.

No new standard is referenced. Existing national standards are referenced. The code change proposal is meant to bring the IFC into consensus with the 2007 Supplement to the IBC, and other national codes.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: This proposal is based on Section 1027 – Means of Egress for Existing Buildings of the IFC 2006 edition.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide correlation with Section 1017.3 for new buildings which was revised by code change E130-06/07 by increasing the dead-end limits to 50 feet in sprinklered Groups E, I-1 and U.

Assembly Action:

None

Final Hearing Results

F209-07/08

AS

Code Change No: F210-07/08

Original Proposal

Table 1027.17.2

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise table as follows:

**TABLE 1027.17.2
COMMON PATH, DEAD-END AND TRAVEL DISTANCE LIMITS (BY OCCUPANCY)**

Occupancy	Common Path Limit		Dead-End Limit		Travel Distance Limit	
	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)
Group I-2 (Health Care)	NR ^e	NR ^e	NR	NR	150	200 ^c

a. through d. (No change to current text).

e. Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m²) shall have at least two exit access doors separated by one-third the diagonal.

(Portions of table and footnotes not shown remain unchanged)

Reason: This proposal only addresses existing Group I-2 facilities. For new construction, 2 exit access doors are required within any room or suite exceeding 1,000 square feet. This proposal will require that existing facilities also provide two paths of egress from these larger areas within the I-2 occupancy.

As the rooms expand in size, egress and travel path becomes more critical. This is only compounded more when there a room that is larger than 1,000 square feet and may contain multiple bed-ridden, or confined patients. This will facilitate removing the patients from the room through a 2nd exit access door.

This requirement will establish the minimum acceptable level of safety for egress from these larger patient rooms. The proposal is consistent with federal regulations for these facilities.

Cost Impact: The code change proposal will increase the cost of construction.

Analysis: This proposal is based on Section 1027 – Means of Egress for Existing Buildings of the IFC 2006 edition.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will facilitate emergency evacuation of bed-ridden patients in existing Group I-2 by providing an additional exit access door in larger patient rooms or suites, consistent with Section 1014.2.2.

Assembly Action:

None

Final Hearing Results

F210-07/08

AS

Code Change No: **F211-07/08**

Original Proposal

Section 1027.22 (New)

Proponent: Gary Lewis, City of Summit, NJ, representing ICC Ad-Hoc Committee on Terrorism Resistant Buildings

Add new text as follows:

1027.22 Exit path markings. Existing buildings of Group A ,B, E, I, M, and R-1 having occupied floors located more than 75 feet (22 860mm) above the lowest level of fire department vehicle access shall have exit path markings in accordance with Section 1027 (Supp).

Reason: The membership, at the final hearings of the 2006/2007 code development cycle, overturned the committee action on E84-06/07 with a two-thirds majority vote to include requirements in the IBC and the IFC for luminous exit path markings. The TRB Ad Hoc committee was the original proponent to this code change and it was our intent to make these requirements retroactive for existing buildings. Our intent was not clear in the original proposal, so, at this time, the TRB Ad Hoc committee is proposing to make these requirements applicable to existing buildings.

The proposed new section on exit path markings will require luminescent exit path markings be provided in existing buildings. This proposal will facilitate rapid egress and assist in full building evacuation and is drawn from Recommendations 17 and 18 of the National Institute of Standards and Technology's (NIST) report on the World Trade Center tragedy.

Up to this point, code requirements for high rise buildings were written under the assumption that the building would be evacuated floor by floor. In most instances, in a building with a full suppression system, only the floor where the fire is located and the floors immediately above and below would be evacuated. Acts of terrorism and accidental incidents like power failures have made it necessary to consider design for full building evacuation that is as rapid as possible. This may be made necessary in response to an event within the building or an event outside the building. The proposed code change to require exit path markings is intended to facilitate the most rapid possible full building evacuation.

In the City of New York, after the first bombing of the WTC, requirements were instituted to require exit path markings in vertical exit enclosures in new and existing buildings. This proposal is taken directly from those requirements.

Bibliography:

1. Reference Standard 6-1, Photoluminescent exit path markings as required by Local Law 26 of 2004, New York City Building Code, § 27-383(b)
2. National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

Cost Impact: The proposal will increase the cost of construction however, the life safety benefit is great.

Analysis: This proposal is based on Section 1027 – Means of Egress for Existing Buildings of the 2006 edition, which will be renumbered to be 1028 in the 2009 edition (due to the addition of new Section 1027 - Exit Path Markings in the 2006/2007 cycle). The reference in this proposal to Section 1027 (Supp) will be to the new Section 1027 in the 2009 edition.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that it was overbroad and would require immediate compliance in all high-rises of the listed occupancies. Historic buildings, which are very difficult to retrofit, would be included. It was noted that there is no documentation on the cost-effectiveness of these markings in existing buildings and that the NIST report did not discuss requiring egress path markings in existing buildings. The section, in order to be effective, would require retrofitting of exit enclosure illumination in accordance with Section 1027.1.7 of the 2007 Supplement. It was suggested that the IEBC might be a better place to deal with this issue.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Gary Lewis, Chair, ICC Ad Hoc Committee on Terrorism Resistant Buildings, requests Approval as Modified by this public comment.

Modify proposal as follows:

1027.22 Exit path markings. Existing buildings of Group A, B, E, I, M and R-1 having occupied floors located more than 75 feet (22,860 mm) above the lowest level of fire department vehicle access shall be provided with exit path markings in accordance with Section 1027 (Supp).

Exception: Open, unenclosed stairwells in historic buildings designated as historic under a state or local historic preservation program.

Commenter's Reason: This comment is intended to support the requirements for photo luminescent exit path markings in vertical exit enclosures in existing buildings of Group A, B, E, I, M and R-1. This same language, minus the exception for historic structures, was already approved by the membership as the standard in the IBC for all newly-constructed high rises.

In situations where building evacuation is necessary, it is not unusual for power to be lost, rendering stairwells darker than when lit. If criminal intent was involved, stairway lighting may be one of the first targets to deactivate. Emergency lighting can leave dark spots in stairwells as well. Occupants may move slower than egress model plans for the building as a result, also confirmed by the study by recent research.

Photoluminescent markings (PLM) have been proven to improve occupant egress in buildings. Research has shown a marked improvement in egress time when PLM's are present in buildings vs. unmarked unlit stairwells.¹ From 65-75% of building occupants using stairwells with PLM's felt comfortable going down the stairwells with PLM and reduced lighting. Additionally the speed of movement in this study showed an improvement in speed to egress the building. Handrail marking seemed to help considerably.

A perceived emergency situation requiring evacuation brings an amount of stress to occupants. Building egress systems can often be complex and non-intuitive to users.² Adding comfort of occupants during this difficult and stressful emergency evacuation egress situation may reduce stress keeping occupants focused on the task of negotiating the stairway and transfer corridors, with very clear pathways marked for egress more frequently than exit signs.

Products and information on the process for installation of PLM's exist due to New York City's mandate retroactively in 2004. Surface preparation for adhesive backed systems and discussion about mechanically fastened systems has been taking place in leading groups like the Society of Fire Protection Engineers.³

Some compromises were made from the original proposal as existing buildings can be a bit more challenging when retrofitting passive life safety systems. The compromises were made based on the February 18 – March 1, 2008 Public Hearings on the 2006 Edition of the International Fire Code Committee Hearing results. The hearing results noted that this proposal was disapproved based on the fact that the committee determined it to be "overbroad and would require immediate compliance in all high-rises of the listed occupancies." Of particular importance, the committee noted that "Historic buildings, which are very difficult to retrofit, would be included." The Ad Hoc committee concurs with the concerns and has adjusted the proposal accordingly.

The Committee has modified F211 to take into account the aesthetics and possible natural light in an open, unenclosed stairway, in a historic building. Also, the requirement is only applicable to buildings above 75 feet above the lowest level of the fire department access, so the requirement has limited application in the first place within these historic structures.

Photo luminescent exit path markings will facilitate quick egress from buildings during full building evacuation, regardless of emergency or non-emergency conditions. This type of marking is similar to what is currently used in the airline industry to evacuate large aircraft. It has been proven to work in the airline industry, and it will work in the building industry too. Photo luminescent markings in the vertical exit enclosures will not only help to illuminate the exit path, it will provide clear guidance on the travel direction for exiting the building.

This proposal also in alignment with the NIST recommendation number 18 on egress system be designed items (2) "to maintain their functional integrity and survivability under foreseeable building-specific or large-scale emergencies" and (3) "with consistent layouts, standard signage, and guidance so that systems become intuitive and obvious to building occupants during evacuations

The marking requirement is only applicable to those buildings that have occupied floors exceeding 75 feet above the lowest level of fire department vehicle access. The cost impact on existing buildings is minor when considering the life safety benefit. Therefore, it is logical and affordable to extend this same level of protection provided new high rise structures, to existing high rise buildings.

1. Evaluation and comparison of different installations of photoluminescent marking on stairwells of a high rise building. N. Benichou, Proulx, G, Sept. 3-5, 2007.
2. The Human Factor: building designers often forget how important the reactions of the human occupants are when they specify fire and life safety systems. Proulx., G; Richardson, J.K., May, 2002
3. Escape from New York, "The use of Photoluminescent pathway-marking Systems in High-Rise, James D. Amy, Jr., PE, Rolf Jensen Assoc., FPE Magazine Archives, Emerging Trends Newsletter, December, 2006.

Final Hearing Results

F211-07/08

AMPC

Code Change No: F217-07/08

Original Proposal

Section: 1501.2 (New)

Proponents: Lynne M. Kilpatrick, Fire Department, Seattle, WA, representing Washington State Association of Fire Marshals; Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Add new text as follows:

1501.2 Nonapplicability. This chapter shall not apply to spray finishing utilizing flammable or combustible liquids which do not sustain combustion, including:

1. Liquids that have no fire point when tested in accordance with ASTM D 92.
2. Liquids with a flashpoint greater than 95°F (35°C) in a water-miscible solution or dispersion with a water and inert (noncombustible) solids content of more than 80 percent by weight.

Reason: There are a variety of water-based paint products available on the market today that have a flash point and meet the definition of a flammable or combustible liquid but cannot sustain combustion due to the sheer quantity of inert solids and water present in their composition. Many consumer latex paints fall into this category. Chapter 15 currently regulates spray finishing of any material defined as a flammable or combustible liquid by requiring that the spraying operation be confined to either a spray booth or an approved spray room. This proposed code change clarifies for the reader that liquids that do not have a fire point are not regulated by Chapter 15. This proposal also exempts water-miscible liquids with a flash point over 95°F (35°C) having an aggregate water and inert solid content by weight of at least 80 percent from regulation under Chapter 15. Materials meeting these same criteria are currently exempted from the storage and use requirements in Chapter 34 (see Sec. 3401.2) but it has been unclear to code users, including jurisdictions having authority, whether the same two exemptions should apply when these products are used in spray finishing operations. Currently it is common practice to apply these water-based paint products for interior and exterior finishing without additional controls. This proposal provides consistency between the real world use of these products and the regulatory requirements by clarifying when Chapter 15 does not apply.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which provides a useful clarification of the non-applicability of the chapter to a category of flammable and combustible liquids which will not sustain combustion.

Assembly Action:

None

Final Hearing Results

F217-07/08

AS

Code Change No: F219-07/08

Original Proposal

Sections: 1802.1 (IBC [F] 415.2), 2703.2.2.1

Proponent: Doug Hall, Fire Department, City of Westminster, CO, representing Fire Marshal's Association of Colorado

Revise as follows:

**SECTION 1802
DEFINITIONS**

1802.1 (IBC [F] 415.2) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

HAZARDOUS PRODUCTION MATERIAL (HPM). A solid, liquid or gas associated with semiconductor manufacturing that has a degree-of-hazard rating in health, flammability or ~~reactivity~~ instability of Class 3 or 4 as ranked by NFPA 704 and which is used directly in research, laboratory or production processes which have as their end product materials that are not hazardous.

2703.2.2.1 Design and construction. Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:

1. Piping, tubing, valves, fittings and related components shall be designed and fabricated from materials that are compatible with the material to be contained and shall be of adequate strength and durability to withstand the pressure, structural and seismic stress and exposure to which they are subject.
2. Piping and tubing shall be identified in accordance with ASME A13.1 to indicate the material conveyed.
3. Readily accessible manual valves or automatic remotely activated fail-safe emergency shutoff valves shall be installed on supply piping and tubing at the following locations:
 - 3.1. The point of use.
 - 3.2. The tank, cylinder or bulk source.
4. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be identified and the location shall be clearly visible, accessible and indicated by means of a sign.
5. Backflow prevention or check valves shall be provided when the backflow of hazardous materials could create a hazardous condition or cause the unauthorized discharge of hazardous materials.
6. Where gases or liquids having a hazard ranking of of:
 - Health hazard Class 3 or 4
 - Flammability Class 4
 - ~~Reactivity~~ Instability Class 3 or 4

Health hazard Class 3 or 4
 Flammability Class 4
~~Reactivity~~ Instability Class 3 or 4

in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge (psig) (103 kPa), an approved means of leak detection and emergency shutoff or excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.

Exceptions:

1. Piping for inlet connections designed to prevent backflow.
2. Piping for pressure relief devices.

Reason: NFPA 704 no longer recognizes the "Reactivity" label for the applicable classification of hazardous materials. Revising the classification to the current 2007 edition of NFPA 704 terminology reflects exactly what the IFC standards reference states. The use of the term "reactivity" misinforms the intent of this specific classification. Appropriate use of the term "instability" reflects the intent of the current NFPA 704 classification system for fire personnel and industrial emergency responders.

"Reactivity" has been erroneously taught to thousands of emergency responders and private industry users that the numeric rating system quantified the degree of reactivity a chemical might have with other chemicals, i.e. how reactive a chemical is to something else.

Instability directly correlates to the degree of intrinsic susceptibility of materials to release energy when exposed to thermal or mechanical shock and/or elevated temperatures or pressure. There is no direct correlation with a chemical's compatibility to another chemical substance.

There are approximately 16 references in the 2007 IFC to the NFPA 704 standard. The IFC should accurately reflect the information from a standard.

Cost Impact: No direct cost impact to facility users as the NFPA 704 numeric rating system has not changed for instability.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which would provide a useful clarification of the terminology and correlation with NFPA 704.

Assembly Action:

None

Final Hearing Results

F219-07/08

AS

Code Change No: F223-07/08

Original Proposal

Section: 1805.2.3.4

Proponent: Patrick A. McLaughlin, McLaughlin & Associates, representing The Semiconductor Industry Association

Delete without substitution:

~~**1805.2.3.4 Clearances.** Workstations where HPM is used shall be provided with horizontal servicing clearances of not less than 3 feet (914 mm) for electrical equipment, gas cylinder connections and similar hazardous conditions. These clearances shall apply only to normal operational procedures and not to repair or maintenance-related work.~~

Reason: This proposal deletes an outdated and confusing tool clearance requirement from the code. Clean room cost in excess of \$4000/ft², so maximizing this space without introducing occupant safety hazards is a goal of the device manufacturer. Clearance requirements for equipment should be driven by the activities that take place in the space, and 36" is arbitrary clearance dimension. Also, as written it causes confusion within both the industry and enforcement community and as a result is erroneously applied. In addition, the NEC for energized electrical work already includes these requirements and OSHA has other clearance requirements. Lastly, ergonomic requirements for safe operator work space define these dimensions. The current requirement in the section adds another constraint to space planning of the user, with no real benefit to the occupants or emergency responders.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which deletes outdated, arbitrary text that is covered in other sections and standards.

Assembly Action:

None

Final Hearing Results

F223-07/08

AS

Code Change No: F225-07/08

Original Proposal

Sections: 2201.1, 2202.1 (New), 1103.5, 1106.1; IBC 412.1 (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Revise as follows:

2201.1 Scope. Automotive motor fuel-dispensing facilities, marine motor fuel-dispensing facilities, fleet vehicle motor fuel-dispensing facilities aircraft motor-vehicle fuel-dispensing facilities and repair garages shall be in accordance with this chapter and the *International Building Code*, *International Fuel Gas Code* and the *International Mechanical Code*. Such operations shall include both operations that are accessible to the public and private operations.

1103.5 Dispensing of flammable and combustible liquids. The dispensing, transferring and storage of flammable and combustible liquids shall be in accordance with this chapter and Chapter 34. Aircraft motor vehicle fuel-dispensing ~~stations~~ facilities shall be in accordance with Chapter 22.

1106.1 Aircraft motor vehicle fuel-dispensing ~~stations~~ facilities. Aircraft motor vehicle fuel-dispensing ~~stations~~ facilities shall be in accordance with Chapter 22.

2. Add new definition as follows:

2202.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AIRCRAFT MOTOR-VEHICLE FUEL-DISPENSING FACILITY. That portion of property where flammable or combustible liquids or gases used as motor fuels are stored and dispensed from fixed equipment into the fuel tanks of aircraft.

3. Add new text as follows:

IBC 412.1 General. Aircraft related occupancies shall comply with this section and the *International Fire Code*.

(Renumber subsequent sections)

Reason: The IFC has construction requirements for aircraft related facilities in Chapter 11 Aviation Facilities, however, Section 412 Aircraft-related Occupancies in the IBC does not direct the user to the fire code other than for aircraft paint hangers. The new language proposed for Section 412.1 will provide that reference.

Additionally, IFC Chapter 11 Aviation Facilities requires "Aircraft Motor-Vehicle Fuel-Dispensing Stations" to be installed in accordance with Chapter 22 of that code, however, of all the different types of motor vehicle facilities defined by Chapter 22 and listed in Section 2201.1 Scope, aircraft motor-vehicle fuel-dispensing stations are not included. The proposed language clarifies that these facilities are within the scope of Chapter 22 and provides a definition.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2202.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AIRCRAFT MOTOR-VEHICLE FUEL-DISPENSING FACILITY. That portion of property where flammable or combustible liquids or gases used as motor fuels are stored and dispensed from fixed automotive-type equipment into the fuel tanks of aircraft.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which fills the need for defining this type of motor fuel dispensing facility. The modification further clarifies that these facilities, found mainly at small, local airports, use the same type of dispensing equipment as automotive facilities rather than the more sophisticated fuelers and systems found at larger airports.

Assembly Action:

None

Final Hearing Results

F225-07/08

AM

Code Change No: F226-07/08

Original Proposal

Sections: 2204.4.1, 2210.3.4

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing himself

Revise as follows:

2204.4.1 Approved containers required. Class I, II and IIIA liquids shall not be dispensed into a portable container unless such container does not exceed 5 gallons (18.9 L) capacity, is listed or of approved material and construction, and has a tight closure with screwed or spring-loaded cover so designed that the contents can be dispensed without spilling. Liquids shall not be dispensed into portable tanks or cargo tanks.

2210.3.4 Portable containers. Dispensing of Class I, II or IIIA liquids into containers, other than fuel tanks, shall be in accordance with Section 2204.4.1. ~~Class I, II or IIIA liquids shall not be dispensed into a portable container unless such container is approved.~~

Reason: The revision to Section 2204.4.1 is intended to prohibit filling of a new class of portable gasoline containers that have entered the marketplace. These cans, some of which hold as much as 14 gallons and weigh over 100 pounds when full, often include integrated hoses and dispensing nozzles, yet they do not comply with any UL, ASTM or similar recognized standard.

Apparently, they are certified by the manufacturer as meeting UN/DOT standards for transportation, but it is questionable whether the safety standards required for transportation are adequate for storage and use of these products. For example, there are concerns about the ability of users to safely hoist these containers off of and on to vehicles to avoid static accumulation during filling, and the static charge will be greater than that experienced with smaller cans because there is more fuel transferred during filling. Given that UL30, UL1313 and ASTM F852 or F976 (the recognized standards for construction of portable gas containers) all limit container capacities to approximately 5 gallons, it makes sense for the IFC to reflect this limitation.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2204.4.1 Approved containers required. Class I, II and IIIA liquids shall not be dispensed into a portable container unless such container does not exceed ~~5~~ 6 gallons (~~18.9~~ 22.7 L) capacity, is listed or of approved material and construction, and has a tight closure with screwed or spring-loaded cover so designed that the contents can be dispensed without spilling. Liquids shall not be dispensed into portable tanks or cargo tanks.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which limits the size of portable containers which can be filled. The modification provides correlation with industry size standards for approved portable containers.

Assembly Action:

None

Final Hearing Results

F226-07/08

AM

Code Change No: **F228-07/08**

Original Proposal

Sections: 2205.2.1 (New), 2205.2.2 (New)

Proponents: Bob Eugene/Ken Boyce, Underwriters Laboratories, Inc., representing UL, US Department of Energy, National Renewable Energy Laboratory, Clean Vehicle Education Foundation

Add new text as follows:

2205.2.1 Inspections. Flammable and combustible liquid fuel dispensing and containment equipment shall be periodically inspected where required by the fire code official to verify that it is in proper working order and not subject to leakage.

2205.2.2 Repairs and service. The fire code official is authorized to require damaged or unsafe containment and dispensing equipment to be repaired or serviced in an approved manner, including, but not limited to, equipment that shows signs of physical damage, internal and external corrosion, leakage, brittleness, aging or undue wear and tear.

(Renumber subsequent sections)

Reason: This proposal provides basic provisions for the inspection, repair and servicing of flammable and combustible liquid dispensing system equipment, which are not currently covered in this code or in NFPA 30A. The proposed requirements constitute good practice, and will also help to proactively mitigate potential leakage of fuel dispensing system components, including those for use with E85.

Proposed Section 2205.2.1 authorizes the fire code official to require inspection of equipment on a periodic basis, and identifies that the inspection is to verify the equipment is in proper working order and isn't leaking. This inspection is supported by an operational permit in Section 105.6.16 (9) for the dispensing of flammable and combustible liquids into motor vehicles. The frequency and nature of the inspections is up to the discretion of the fire code official. Proposed Section 2205.2.2 authorizes the fire code official to require damaged or leaking equipment to be serviced or repaired in an approved manner. Together the new proposed provisions work well with the other requirements in Section 2205.

The proposal reinforces development of a comprehensive set of requirements covering the inspection and testing of motor vehicle fuel containment and dispensing system components, similar to requirements in place for fire alarm systems.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proposal will provide the fire code official with needed authority to require maintenance inspections and to order the repair of containment and dispensing equipment as needed.

Assembly Action:

None

Final Hearing Results

F228-07/08

AS

Code Change No: F230-07/08**Original Proposal**

Sections: 2206.8 through 2206.8.5 (New), 2206.7, 2202.1 (New)

Proponent: Bob Eugene/Ken Boyce, Underwriters Laboratories, Inc., representing UL, US Department of Energy, National Renewable Energy Laboratory, Clean Vehicle Education Foundation

1. Add new text as follows:

2206.8 Alcohol blended fuel-dispensing operations. The design, fabrication and installation of alcohol blended fuel-dispensing systems shall also be in accordance with Sections 2206.7 and Sections 2206.8.1 through 2206.8.5..

2206.8.1 Approval of equipment. Dispensers, hoses, nozzles, breakaway fittings, swivels, flexible connectors or dispenser emergency shutoff valves, vapor recovery systems and pumps used in alcohol blended fuel-dispensing systems shall be listed or approved for the specific purpose.

2206.8.2 Change of system contents. Fuel dispensing systems subject to change in contents from gasoline to alcohol blended fuels shall be subject to fire code official review and approval prior to commencing dispensing operations.

2206.8.3 Facility identification. Facilities dispensing alcohol blended fuels shall be identified by an approved means.

2206.8.4 Marking. Dispensers shall be marked in an approved manner to identify the types of alcohol blended fuels to be dispensed.

2206.8.5 Maintenance and inspection. Equipment shall be maintained and inspected in accordance with Section 2205.2.

2. Revise as follows:

2206.7 Fuel-dispensing systems for flammable or combustible liquids. The design, fabrication and installation of fuel-dispensing systems for flammable or combustible liquid fuels shall be in accordance with Sections 2206.7.1 through 2206.7.9.2.4. Alcohol blended fuel dispensing systems shall also comply with Section 2206.8.

3. Add new definition as follows:

2202.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ALCOHOL BLENDED FUELS. Alcohol blended fuels, including those containing 85% ethanol and 15% unleaded gasoline (E85), are flammable liquids consisting of ethanol or other alcohols blended greater than 15% by volume. Alcohols are polar compounds that exhibit increased moisture absorption, water solubility, polar solvency and solution conductivity relative to gasoline. Alcohol-gasoline blended fuels have unique properties that may affect material compatibility and fire response.

Reason: This proposal includes provisions covering dispensing of alcohol blended fuels, including E85. The code change is needed because section 2206.7.1 currently requires certain dispensing system components to be listed, and these listings are not yet available from nationally recognized testing laboratories. These organizations are currently working with stakeholders to address corrosion and material compatibility issues associated with E85 and other alcohol blended fuels.

Section 2206.8.1 allows the dispensing equipment to be approved by the fire code official and identifies dispensing system components that should be listed or approved for use with alcohol blended fuels. The code official will base approval of equipment not listed for use with alcohol blended fuels on prevailing regulations where established. In the absence of prevailing regulations it is anticipated that the code official will base acceptance on additional documentation provided by the manufacturer confirming equipment compatibility with alcohol blended fuels, and other applicable information.

Section 2206.8.2 allows the code official the ability to re-approve installations that convert from gasoline dispensing to alcohol blended fuel dispensing; this allows for verification that the installation complies with the new requirements. It also ensures that the fire officials know the new fuels will be present on site, which might impact local fire suppression operations, and the proposed provision would permit the necessary coordination.

Sections 2206.8.3 and 2206.8.4 address facility and equipment identification, respectively, for alcohol blended fuel. Identification of the facility is intended to promote first responder awareness of the presence of alcohol blended fuels. Identification of the equipment for the specific alcohol blended fuels communicates the intended use of the installed equipment.

Section 2206.8.5 is intended to help direct the fire code official to provisions for maintenance and inspection of equipment, since one of the concerns with alcohol blended fuels is its potentially degrading effects on system components.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

ALCOHOL BLENDED FUELS. Alcohol blended fuels, including those containing 85% ethanol and 15% unleaded gasoline (E85), are flammable liquids consisting of ethanol or other alcohols blended greater than 15% by volume. ~~Alcohols are polar compounds that exhibit increased moisture absorption, water solubility, polar solvency and solution conductivity relative to gasoline. Alcohol-gasoline blended fuels have unique properties that may affect material compatibility and fire response.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proposal will provide needed regulations for a type of alternative motor fuel and its dispensing equipment that has grown in popularity. The modification removes text that is useful for commentary but not needed in the definition.

Assembly Action:

None

Final Hearing Results

F230-07/08

AM

Code Change No: F233-07/08

Original Proposal

Sections: 2209.5.1.1, Chapter 45 (New); IBC 406.5.2, Chapter 35 (New)

THESE PROPOSALS ARE ON THE AGENDA OF THE IFC AND THE IBC GENERAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

Proponent: Thomas Joseph, Chair, Hydrogen Industry Panel on Codes (HIPOC)

1. PART I – IFC

Revise as follows:

2209.5.1.1 (Supp) Vehicle fueling pad. The vehicle fueling pad shall be fueled on non-coated of concrete or a other approved paving material having a resistivity resistance not exceeding one megohm as determined by an approved method the methodology specified in DIN EN 1081.

2. Add standard to Chapter 45 as follows:

European Committee for Standardization (EN)
Central Secretariat
Rue de Stassart 36
B-10 50 Brussels

European Standard EN 1081: 1998 Resilient Floor Coverings – Determination of the Electrical Resistance

PART I – IBC GENERAL

406.5.2 (Supp) Vehicle fueling pad. The vehicle fueling pad shall be fueled on non-coated of concrete or a other approved paving material having a resistivity resistance not exceeding 1 megohm as determined by an approved method the methodology specified in DIN EN 1081.

2. Add standard to Chapter 35 as follows:

European Committee for Standardization (EN)
Central Secretariat
Rue de Stassart 36
B-10 50 Brussels

European Standard EN 1081: 1998 Resilient Floor Coverings – Determination of the Electrical Resistance

Reason: The proposed changes retain the original intent of this section while correcting some incorrect language and providing additional guidance for the code official. These changes address concerns voiced by ICC members during the last code cycle regarding the specified units and the request for additional guidance for the code official by using a referenced standard.

Units: Megohms are the appropriate measurement of resistance, not resistivity.

Referenced Standard: The referenced EN standard 1081:1998, which now has DIN status, is the best available standard that is applicable to measuring resistance of vehicle fueling pads. With this change the official still has the option to use another approved method, but DIN EN 1081:1998 is the referred method for measurement if non-coated concrete is not used. It may be worth noting that DIN EN 1081:1998 was created using an open, transparent and consensus-based process similar to the procedures used by ANSI-approved standard development organizations. Considering Standard 1081 also bares the EN designation, the U.S. building regulatory community should be comfortable that it has been, and will continue to be, carefully scrutinized and representative of the work of a true consensus body that we Americans are familiar with.

These proposed changes will retain the original intent of this section to dissipate static electricity built up on the vehicle from driving before the driver's door is opened--with corrected language and better guidance. The overall goal is to increase the safety of vehicle fueling. Concrete is allowed for the fueling pad with no resistance measurements needed; if an alternate material is desired, it can be used as long as it has a resistance less than or equal to 1 megohm. Both the concrete and 1 megohm criteria are cited from the American Petroleum Institute (API) 2003 Recommended Practices (RP), section 4.6.9.2. NFPA 77: *Recommended Practice on Static Electricity*, section 7.4.1.3 also points out that a resistance of 1 megohm or less is considered adequate to dissipate any charges. Additionally, the proposed language has been proposed by the State of Michigan, Department of Environmental Quality – Waste and Hazardous Materials Division for Michigan's *Hydrogen Storage and Dispensing Rules*, and is consistent with changes proposed under the current cycle to NFPA 55-2005, *Standard for the Storage, Use, and Handling of Compressed Gasses and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*.

Cost Impact: The code change proposal will increase the cost of construction.

Analysis: A review of the standard proposed for inclusion in the code, EN 1081: 1998, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard EN 1981:1998 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

PART I – IFC

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the proponent had responded to the committees concerns regarding the way the standard is referenced. That concern was expressed in the committee action on code change F156-07/07 in the last cycle.

Assembly Action:

None

PART II – IBC GENERAL

Committee Action:

Disapproved

Committee Reason: The committee did not receive enough data to determine the applicability of the requirements.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part II.

Public Comment:

Thomas Joseph, Chair, Hydrogen Industry Panel on Codes, requests Approval as Submitted.

Commenter's Reason: The Hydrogen Industry asks the Membership to uphold IFC Committee Action on Part I for "As Submitted" and reverse IBC General Committee Action on Part II from "Disapprove" to "As Submitted" for consistency and uniformity in enforcement.

Fifteen (15) copies of the European Standard DIN EN 1081:1998-04, proposing electrostatic discharge (ESD) material and testing requirements for vehicle fueling surfaces were purchased and provided to the IFC Secretariat and Code Development Committee. The Secretariat's analysis indicated DIN EN 1081 was reviewed for compliance with ICC policy and accepted as compliant. Part I was subsequently reviewed and approved by the IFC Development Committee.

Part II was disapproved by IBC General Development Committee, not on technical grounds, but based on (1) Not having received additional copies of the standard and (2) that the IFC Secretariat's review and acceptance of DIN EN 1081 had not been coordinated with the IBC-General Secretariat or the IBC General Committee.

Final Hearing Results

F233-07/08, Part I	AS
F233-07/08, Part II	AS

Code Change No: F235-07/08

Original Proposal

Section: 2211.7.2.1, Chapter 45 (New)

Proponent: Bob Eugene, Underwriters Laboratories

1. Revise as follows:

2211.7.2.1 (Supp) System design. The flammable gas detection system shall be listed or approved and shall be calibrated to the types of fuels or gases used by vehicles to be repaired. Gas detectors or sensors shall be listed in accordance with UL 2075 and shall indicate the gases they are intended to detect. The gas detection system shall be designed to activate when the level of flammable gas exceeds 25 percent of the lower flammable limit (LFL). Gas detection shall also be provided in lubrication or chassis repair pits of repair garages used for repairing nonodorized LNG-fueled vehicles.

2. Add standard to Chapter 45 as follows:

UL

2075-2007 Standard for Gas and Vapor Detectors and Sensors

Reason: The flammable gas detection system is design to produce an alarm or signal when exposed to different concentrations of gases or vapor. As part of that system, the gas detectors or gas sensor is an import part of the system for the detection of these different gasses. The proposal provides direction on the standard and proper marking for the different fuels. Under ANSI/UL 2075, a set flammable gases and concentrations (PPM) is developed for each detector or sensor and the manufacturer is required to provide what gases and the concentration the device is designed to detect. ANSI/UL 2075 verifies performance of each detector or sensor for each gas it is designed to detect. The manufacturer determines what gas their product is designed to detect and will now mark the device with what gases it is design to identify. The intended gases may be in the manufacturer's instructions rather than on the product.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standard proposed for inclusion in the code, UL 2075-2007, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard UL 2075-2007 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which provides an appropriate referenced standard for flammable gas detectors.

Assembly Action:

None

Final Hearing Results

F235-07/08

AS

Code Change No: **F237-07/08**

Original Proposal

Sections: 2301.1, 2308.4, 2310.1, 2501.1, 3404.3.3.9, Chapter 45 (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Revise as follows:

2301.1 Scope. High-piled combustible storage shall be in accordance with this chapter. In addition to the requirements of this chapter, the following material-specific requirements shall apply:

1. Aerosols shall be in accordance with Chapter 28.
2. Flammable and combustible liquids shall be in accordance with Chapter 34.
3. Hazardous materials shall be in accordance with Chapter 27.
4. Storage of combustible paper records shall be in accordance with NFPA 13 and NFPA ~~230~~ 232.
5. Storage of combustible fibers shall be in accordance with Chapter 29.
6. Storage of miscellaneous combustible material shall be in accordance with Chapter 3.

2308.4 Column protection. Steel building columns shall be protected in accordance with NFPA ~~230~~ 13.

2310.1 General. Records storage facilities used for the rack or shelf storage of combustible paper records greater than 12 feet (3658 mm) in height shall be in accordance with Sections 2306 and 2308 and NFPA 13 and NFPA ~~230~~ 232. Palletized storage of records shall be in accordance with Section 2307.

2501.1 Scope. Tire rebuilding plants, tire storage and tire byproduct facilities shall comply with this chapter, other applicable requirements of this code and NFPA 13 and NFPA ~~230~~. Tire storage in buildings shall also comply with Chapter 23.

3404.3.3.9 Idle combustible pallets. Storage of empty or idle combustible pallets inside an unprotected liquid storage area shall be limited to a maximum pile size of 2,500 square feet (232 m²) and to a maximum storage height of 6 feet (1829 mm). Storage of empty or idle combustible pallets inside a protected liquid storage area shall comply with NFPA 13 and NFPA ~~230~~. Pallet storage shall be separated from liquid storage by aisles that are at least 8 feet (2438 mm) wide.

2. Revise Chapter 45 standards as follows:

NFPA

~~230—03 Fire Protection of Storage~~

232-07 Protection of Records

Reason: NFPA 230 has been eliminated as a standard. The various references throughout the code are being revised in this proposal as appropriate. Some of the references now refer to NFPA 232 *Protection of Records*, and some refer to NFPA 13 *Installation of Sprinkler Systems* as the appropriate standard.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standard proposed for inclusion in the code, NFPA 232-07, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2301.1 Scope. High-piled combustible storage shall be in accordance with this chapter. In addition to the requirements of this chapter, the following material-specific requirements shall apply:

1. Aerosols shall be in accordance with Chapter 28.
2. Flammable and combustible liquids shall be in accordance with Chapter 34.
3. Hazardous materials shall be in accordance with Chapter 27.
4. Storage of combustible paper records shall be in accordance with NFPA 13 ~~and NFPA 232~~.
5. Storage of combustible fibers shall be in accordance with Chapter 29.
6. Storage of miscellaneous combustible material shall be in accordance with Chapter 3.

2310.1 General. Records storage facilities used for the rack or shelf storage of combustible paper records greater than 12 feet (3658 mm) in height shall be in accordance with Sections 2306 and 2308 and NFPA 13 ~~and NFPA 232~~. Palletized storage of records shall be in accordance with Section 2307.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement accurately substantiates the need for the change and removes references to a standard that has been withdrawn from service by its promulgator. The proposed standard NFPA 232 was submitted for review after the standards reviews were posted on the ICC website and, although it was the announced opinion of staff that it complies with the ICC standards policy, the committee did not feel that it would be a useful standard for reference. The committee observed that the proposed standard is more of a business continuity standard rather than focusing on fire protection and therefore removed it from the proposal through the modification.

Assembly Action:

None

Final Hearing Results

F237-07/08

AM

Code Change No: F238-07/08

Original Proposal

Section: 2305.6

Proponent: Michael E. Dell'Orfano, South Metro Fire Rescue, representing Fire Marshal's Association of Colorado

Add new text as follows:

2305.6 Designation of storage heights. Where required by the fire code official, a visual method of indicating the maximum allowable storage height shall be provided.

(Renumber subsequent sections)

Reason: The purpose of this code change proposal is to add new requirements to allow the fire code official to designate the maximum storage height allowed for a high-piled combustible storage area. Often rooms or buildings have ceiling heights that would allow storage heights beyond that allowed by the fire code or beyond the limits of the fire protection systems. Designating the maximum storage height would allow business owners and fire code officials to visually identify these requirements easily. Examples may include striping the wall or rack uprights, hanging markers from the ceiling, posting signs stating the maximum allowable storage heights, or displaying a floor plan with storage heights indicated. A list of possible methods to indicate maximum storage heights is not included in the code language in order to avoid a "laundry list approach" that may limit creativity for a particular storage area. Improper storage heights appear to be a common issue amongst fire departments across the country and this code change will help to bring uniformity, along with a specific code section to clarify the fire code official's authority.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a useful tool for the fire code official as well as premises operating staff in regulating the height for storage.

Assembly Action:

None

Final Hearing Results

F238-07/08

AS

Code Change No: **F240-07/08**

Original Proposal

Sections: 2309.4 (New), 2302.1 (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Add new text as follows:

2309.4 Automated rack storage. High-piled storage areas with automated rack storage shall be provided with a manually activated emergency shut down switch for use by emergency personnel. The switch shall be clearly identified and shall be in a location approved by the fire code official.

2. Add new definition as follows:

2302.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AUTOMATED RACK STORAGE. Automated rack storage is a stocking method whereby the movement of pallets, products, apparatus, or systems are automatically controlled by mechanical or electronic devices that take the place of human labor.

Reason: This proposal will provide that if an emergency is to occur in an automated rack storage facility the remotely controlled pallet moving equipment can be manually shut-down. This shut down accomplishes two objectives. First, the potential to either move additional product into the fire or move burning product through the storage area via remotely controlled pallet movers is ceased. Secondly, it is not safe to place emergency personnel within the automated storage area when the system is still active. Many of these automated devices move much faster than personnel can get out of the way, and there is a physical danger to personnel. This shut-down will eliminate danger to personnel and reduce property damage.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2309.4 Automated rack storage. High-piled storage areas with automated rack storage shall be provided with a manually activated emergency shut down switch for use by emergency personnel. The switch shall be clearly identified and shall be in a location approved by the fire ~~code~~ chief code official.

2302.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

AUTOMATED RACK STORAGE. Automated rack storage is a stocking method whereby the movement of pallets, products, apparatus, or systems are automatically controlled by mechanical or electronic devices ~~that take the place of human labor.~~

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change which will provide enhanced firefighter safety when working in and around high-piled storage areas. The modification to Section 2309.4 appropriately changes the approving authority to the fire chief since this is a fire department operational issue. The modification to the definition deletes unnecessary text that is commentary

Assembly Action:

None

Final Hearing Results

F240-07/08

AM

Code Change No: F241-07/08

Original Proposal

Sections: 2403.8.4 (New); IBC 3102.1

Proponent: Daniel E. Nichols, PE, NY State Division of Code Enforcement and Administration

THESE PROPOSALS ARE ON THE AGENDA OF THE IFC AND THE IBC GENERAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFC

Add new text as follows:

2403.8.4 Membrane structures on buildings. Membrane structures that are erected on buildings, balconies, decks, or other structures shall be regulated as permanent membrane structures in accordance with Section 3102 of the *International Building Code*.

(Renumber subsequent sections)

PART II – IBC GENERAL

3102.1 General. The provisions of this section shall apply to air-supported, air-inflated, membrane-covered cable and membrane-covered frame structures, collectively known as membrane structures, erected for a period of 180 days or longer. Those erected for a shorter period of time shall comply with the *International Fire Code*. Membrane structures covering water storage facilities, water clarifiers, water treatment plants, sewage treatment plants, greenhouses and similar facilities not used for human occupancy, are required to meet only the requirements of Sections 3102.3.1 and 3102.7. Membrane structures erected on a building, balcony, deck or other structure for any period of time shall comply with this section.

Reason: The purpose of this code proposal is to limit the location where temporary membrane structures can be erected, based on regulations already found in the temporary membrane structure requirements.

Temporary membrane structures that are placed in a field or parking lot are afforded several safety features including fire separation distance from other hazards (buildings, vehicles), separation from other tents, and provide an unobstructed means of egress path for the uniformly located exits. When a membrane structure is placed upon a building or deck, the temporary membrane structure requirements do not currently regulate exiting from the temporary membrane structure to a set of stairs or door nor do they regulate the hazards that could be below the temporary membrane structure. Furthermore, the temporary membrane structure section does not contain requirements on the regulation of the loads temporary membrane structures would have on a structure below.

With the means of egress, fire separation, and structural issues, it is best for temporary membrane structures to be regulated as permanent membrane structures and subject to the International Building Code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IFC

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because it provides needed guidance to the fire code official on how membrane structures erected on buildings are to be viewed and regulated. Without this change, they are essentially a building addition without regulation. The action is also consistent with the action taken by the IBC-General Committee on Part II.

Assembly Action:

None

PART II – IBC GENERAL

Committee Action:

Approved as Submitted

Committee Reason: If a membrane is constructed on a building it needs to be regulated. This proposal would clarify between the temporary requirements in the IFC and the permanent membrane requirements in the IBC.

Assembly Action:

None

Final Hearing Results

F241-07/08, Part I	AS
F241-07/08, Part II	AS

Code Change No: F242-07/08

Original Proposal

Section: 2403.12.6.1

Proponent: Bob Eugene, Underwriters Laboratories

Revise as follows:

2403.12.6.1 (Supp) Exit sign illumination. Exit signs shall be either listed and labeled in accordance with UL 924 as a self-luminous the internally illuminated type having a minimum duration of 90 minutes luminosity and used in accordance with the listing or shall be internally or externally illuminated by luminaires supplied in the following manner:

1. Two separate circuits, one of which shall be separate from all other circuits, for occupant loads of 300 or less; or
2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided when the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-site generator set, and the system shall be installed in accordance with NFPA 70. The emergency system provided shall have a minimum duration of 90 minutes when operated at full design demand.

Reason: Internally illuminated exit signs Listed in accordance with UL 924 include electrically powered, self-luminous and photoluminescent types, each of which provide for a minimum of 90 minutes luminosity upon loss of normal power. The proposed change complements IBC/IFC section 1011.4.

***IBC 1011.4 Internally illuminated exit signs.** Electrically powered, self-luminous and photoluminescent exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Section 2702. Exit signs shall be illuminated at all times.*

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides needed correlation between Chapters 10 and 24 on the subject of exit sign illumination.

Assembly Action:

None

Final Hearing Results

F242-07/08

AS

Code Change No: **F243-07/08**

Original Proposal

Chapter 24, Sections: 105.6.43, 105.7.13, 202 (IBC 202); Table 906.1 (IBC Table [F] 906.1)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

THESE PROPOSALS ARE ON THE AGENDA OF THE IFC AND THE IBC GENERAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFC

1. Revise Chapter 24 as follows:

CHAPTER 24 TENTS, CANOPIES AND OTHER MEMBRANE STRUCTURES

SECTION 2401 GENERAL

2401.1 (Supp) Scope. Tents, canopies and membrane structures shall comply with this chapter. The provisions of Section 2403 are applicable only to temporary tents, canopies and membrane structures. The provisions of Section 2404 are applicable to temporary and permanent tents, canopies and membrane structures.

SECTION 2402 DEFINITIONS

CANOPY. A structure, enclosure or shelter constructed of fabric or pliable materials supported by any manner, except by air or the contents it protects, and is open without sidewalls or drops on 75 percent or more of the perimeter

TENT. A structure, enclosure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported by any manner except by air or the contents that it protects.

SECTION 2403 TEMPORARY TENTS, CANOPIES AND MEMBRANE STRUCTURES

2403.1 General. All temporary tents, canopies and membrane structures shall comply with this section.

2403.2 Approval required. Tents and membrane structures having an area in excess of ~~200~~ 400 square feet (~~19~~ 37 m²) and canopies in excess of ~~400~~ square feet (37 m²) shall not be erected, operated or maintained for any purpose without first obtaining a permit and approval from the fire code official.

Exceptions:

1. Tents used exclusively for recreational camping purposes.
2. ~~Fabric canopies~~ Tents open on all sides which comply with all of the following:
 - 2.1. Individual ~~canopies~~ tents having a maximum size of 700 square feet (65 m²).
 - 2.2. The aggregate area of multiple ~~canopies~~ tents placed side by side without a fire break clearance of 12 feet (3658 mm), not exceeding 700 square feet (65 m²) total.
 - 2.3. A minimum clearance of 12 feet (3658 mm) to all structures and other tents.

2403.3 Place of assembly. (No change to current text)

2403.4 Permits. (No change to current text)

2403.5 Use period. Temporary tents, air-supported, air-inflated or tensioned membrane structures ~~and canopies~~ shall not be erected for a period of more than 180 days within a 12-month period on a single premises.

2403.6 Construction documents. A detailed site and floor plan for tents, ~~canopies~~ or membrane structures with an occupant load of 50 or more shall be provided with each application for approval. The tent, ~~canopy~~ or membrane structure floor plan shall indicate details of the means of egress facilities, seating capacity, arrangement of the seating and location and type of heating and electrical equipment.

2403.7 Inspections. (No change to current text)

2403.7.1 Inspection report. (No change to current text)

2403.8 Access, location and parking. Access location and parking for temporary tents, ~~canopies~~ and membrane structures shall be in accordance with this section.

2403.8.1 Access. (No change to current text)

2403.8.2 Location. Tents, ~~canopies~~ or membrane structures shall not be located within 20 feet (6096 mm) of lot lines, buildings, other tents, ~~canopies~~ or membrane structures, parked vehicles or internal combustion engines. For the purpose of determining required distances, support ropes and guy wires shall be considered as part of the temporary membrane structure, or tent or canopy.

Exceptions:

1. Separation distance between membrane structures, and tents and canopies not used for cooking, is not required when the aggregate floor area does not exceed 15,000 square feet (1394 m²).
2. Membrane structures, or tents or canopies need not be separated from buildings when all of the following conditions are met:
 - 2.1. The aggregate floor area of the membrane structure, or tent or canopy shall not exceed 10,000 square feet (929 m²).
 - 2.2. The aggregate floor area of the building and membrane structure, or tent or canopy shall not exceed the allowable floor area including increases as indicated in the *International Building Code*.
 - 2.3. Required means of egress provisions are provided for both the building and the membrane structure, or tent or canopy, including travel distances.
 - 2.4. Fire apparatus access roads are provided in accordance with Section 503.

2403.8.3 Location of structures in excess of 15,000 square feet in area. (No change to current text)

2403.8.4 Connecting corridors. (No change to current text)

2403.8.5 Fire break. An unobstructed fire break passageway or fire road not less than 12 feet (3658 mm) wide and free from guy ropes or other obstructions shall be maintained on all sides of all tents, ~~canopies~~ and membrane structures unless otherwise approved by the fire code official.

2403.9 Anchorage required. Tents, ~~canopies~~ or membrane structures and their appurtenances shall be adequately roped, braced and anchored to withstand the elements of weather and prevent against collapsing. Documentation of structural stability shall be furnished to the fire code official on request.

2403.10 Temporary air-supported and air-inflated membrane structures. (No change to current text)

2403.10.1 Door operation. (No change to current text)

2403.10.2 Fabric envelope design and construction. (No change to current text)

2403.10.3 Blowers. (No change to current text)

2403.10.4 Auxiliary power. (No change to current text)

2403.11 Seating arrangements. Seating in tents, ~~canopies~~ or membrane structures shall be in accordance with Chapter 10.

2403.12 Means of egress. Means of egress for temporary tents, ~~canopies~~ and membrane structures shall be in accordance with Sections 2403.12.1 through 2403.12.8.

2403.12.1 Distribution. (No change to current text)

2403.12.2 Number. (No change to current text)

**TABLE 2403.12.2
MINIMUM NUMBER OF MEANS OF EGRESS AND MEANS OF
EGRESS WIDTHS FROM TEMPORARY MEMBRANE
STRUCTURES, AND TENTS AND CANOPIES**

OCCUPANT LOAD	MINIMUM NUMBER OF MEANS OF EGRESS	MINIMUM WIDTH OF EACH MEANS OF EGRESS (inches)	MINIMUM WIDTH OF EACH MEANS OF EGRESS (inches)
		Tent or Canopy	Membrane Structure
10 to 199	2	72	36
200 to 499	3	72	72
500 to 999	4	96	72
1,000 to 1,999	5	120	96
2,000 to 2,999	6	120	96
Over 3,000 ^a	7	120	96

For SI: 1 inch = 25.4 mm.

a. When the occupant load exceeds 3,000, the total width of means of egress (in inches) shall not be less than the total occupant load multiplied by 0.2 inches per person.

2403.12.3 Exit openings from tents. (No change to current text)

2403.12.4 Doors. (No change to current text)

2403.12.5 Aisle. (No change to current text)

2403.12.5.1 Arrangement and maintenance. (No change to current text)

2403.12.6 Exit signs. (No change to current text)

2403.12.6.1 (Supp) Exit sign illumination. (No change to current text)

2403.12.7 Means of egress illumination. (No change to current text)

2403.12.8 Maintenance of means of egress. (No change to current text)

SECTION 2404 TEMPORARY AND PERMANENT TENTS, ~~CANOPIES~~ AND MEMBRANE STRUCTURES

2404.1 General. All tents, ~~canopies~~ and membrane structures, both temporary and permanent, shall be in accordance with this section. Permanent tents, ~~canopies~~ and membrane structures shall also comply with the *International Building Code*.

2404.2 Flame propagation performance treatment. Before a permit is granted, the owner or agent shall file with the fire code official a certificate executed by an approved testing laboratory certifying that the tents; ~~canopies~~ and membrane structures and their appurtenances; sidewalls, drops and tarpaulins; floor coverings, bunting and combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of material meeting the flame propagation performance criteria of NFPA 701 or shall be treated with a flame retardant in an approved manner and meet the flame propagation performance criteria of NFPA 701, and that such flame propagation performance criteria are effective for the period specified by the permit.

2404.3 Label. Membrane structures, or tents ~~or canopies~~ shall have a permanently affixed label bearing the identification of size and fabric or material type.

2404.4 Certification. An affidavit or affirmation shall be submitted to the fire code official and a copy retained on the premises on which the tent or air-supported structure is located. The affidavit shall attest to the following information relative to the flame propagation performance criteria of the fabric:

1. Names and address of the owners of the tent, ~~canopy~~ or air-supported structure.
2. Date the fabric was last treated with flame-retardant solution.
3. Trade name or kind of chemical used in treatment.
4. Name of person or firm treating the material.
5. Name of testing agency and test standard by which the fabric was tested.

2404.5 (Supp) Combustible materials. Hay, straw, shavings or similar combustible materials shall not be located within any tent, ~~canopy~~ or membrane structure containing an assembly occupancy, except the materials necessary for the daily feeding and caring of animals. Sawdust and shavings utilized for a public performance or exhibit shall not be prohibited provided the sawdust and shavings are kept damp. Combustible materials shall not be permitted under stands or seats at any time.

2404.6 Smoking. Smoking shall not be permitted in tents, ~~canopies~~ or membrane structures. Approved "No Smoking" signs shall be conspicuously posted in accordance with Section 310.

2404.7 Open or exposed flame. Open flame or other devices emitting flame, fire or heat or any flammable or combustible liquids, gas, charcoal or other cooking device or any other unapproved devices shall not be permitted inside or located within 20 feet (6096 mm) of the tent, ~~canopy~~ or membrane structures while open to the public unless approved by the fire code official.

2404.8 Fireworks. Fireworks shall not be used within 100 feet (30 480 mm) of tents, ~~canopies~~ or membrane structures.

2404.9 Spot lighting. (No change to current text)

2404.10 Safety film. Motion pictures shall not be displayed in tents, ~~canopies~~ or membrane structures unless the motion picture film is safety film.

2404.11 (Supp) Clearance. (No change to current text)

2404.12 Portable fire extinguishers. (No change to current text)

2404.13 Fire protection equipment. (No change to current text)

2404.14 Occupant load factors. (No change to current text)

2404.15 Heating and cooking equipment. (No change to current text)

2404.15.1 Installation. (No change to current text)

2404.15.2 Venting. Gas, liquid and solid fuel-burning equipment designed to be vented shall be vented to the outside air as specified in the *International Fuel Gas Code* and the *International Mechanical Code*. Such vents shall be equipped with approved spark arresters when required. Where vents or flues are used, all portions of the tent, ~~canopy~~ or membrane structure shall be not less than 12 inches (305 mm) from the flue or vent.

2404.15.3 Location. (No change to current text)

2404.15.4 Operations. (No change to current text)

2404.15.5 Cooking tents. Tents where cooking is performed shall be separated from other tents, ~~canopies~~ or membrane structures by a minimum of 20 feet (6096 mm).

2404.15.6 Outdoor cooking. Outdoor cooking that produces sparks or grease-laden vapors shall not be performed within 20 feet (6096 mm) of a tent, ~~canopy~~ or membrane structure.

2404.15.7 Electrical heating and cooking equipment. (No change to current text)

2404.16 LP-gas. (No change to current text)

2404.16.1 General. (No change to current text)

2404.16.2 Location of containers. LP-gas containers shall be located outside. Safety release valves shall be pointed away from the tent, ~~canopy~~ or membrane structure.

2404.16.2.1 Containers 500 gallons or less. (No change to current text)

2404.16.2.2 Containers more than 500 gallons. (No change to current text)

2404.16.3 Protection and security. Portable LP-gas containers, piping, valves and fittings which are located outside and are being used to fuel equipment inside a tent, ~~canopy~~ or membrane structure shall be adequately protected to prevent tampering, damage by vehicles or other hazards and shall be located in an approved location. Portable LP-gas containers shall be securely fastened in place to prevent unauthorized movement.

2404.17 Flammable and combustible liquids. (No change to current text)

2404.17.1 Use. (No change to current text)

2404.17.2 Flammable and combustible liquid storage. Flammable and combustible liquids shall be stored outside in an approved manner not less than 50 feet (15 240 mm) from tents, ~~canopies~~ or membrane structures. Storage shall be in accordance with Chapter 34.

2404.17.3 Refueling. Refueling shall be performed in an approved location not less than 20 feet (6096 mm) from tents, ~~canopies~~ or membrane structures.

2404.18 Display of motor vehicles. Liquid- and gas-fueled vehicles and equipment used for display within tents, ~~canopies~~ or membrane structures shall be in accordance with Sections 2404.18.1 through 2404.18.5.3.

2404.18.1 Batteries. (No change to current text)

2404.18.2 Fuel systems. Vehicles or equipment shall not be fueled or defueled within the tent, ~~canopy~~ or membrane structure.

2404.18.2.1 Quantity limit. (No change to current text)

2404.18.2.2 Inspection. (No change to current text)

2404.18.2.3 Closure. (No change to current text)

2404.18.3 Location. (No change to current text)

2404.18.4 Places of assembly. (No change to current text)

2404.18.5 Competitions and demonstrations. Liquid and gas-fueled vehicles and equipment used for competition or demonstration within a tent, ~~canopy~~ or membrane structure shall comply with Sections 2404.18.5.1 through 2404.18.5.3.

2404.18.5.1 Fuel storage. (No change to current text)

2404.18.5.2 Fueling. (No change to current text)

2404.18.5.3 Spills. (No change to current text)

2404.19 Separation of generators. Generators and other internal combustion power sources shall be separated from tents, ~~canopies~~ or membrane structures by a minimum of 20 feet (6096 mm) and shall be isolated from contact with the public by fencing, enclosure or other approved means.

2404.20 Standby personnel. When, in the opinion of the fire code official, it is essential for public safety in a tent, ~~canopy~~ or membrane structure used as a place of assembly or any other use where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest or activity, the owner, agent or lessee shall employ one or more qualified persons, as required and approved, to remain on duty during the times such places are open to the public, or when such activity is being conducted.

Before each performance or the start of such activity, standby personnel shall keep diligent watch for fires during the time such place is open to the public or such activity is being conducted and take prompt measures for extinguishment of fires that occur and assist in the evacuation of the public from the structure.

There shall be trained crowd managers or crowd manager supervisors at a ratio of one crowd manager/supervisor for every 250 occupants, as approved.

2404.21 (Supp) Combustible vegetation. Combustible vegetation that could create a fire hazard shall be removed from the area occupied by a tent, ~~canopy~~ or membrane structure, and from areas within 30 feet (9144 mm) of such structures.

2404.22 (Supp) Combustible waste material. The floor surface inside tents, ~~canopies~~ or membrane structures and the grounds outside and within a 30 foot (9144 mm) perimeter shall be kept clear of combustible waste and other combustible materials that could create a fire hazard. Such waste shall be stored in approved containers and shall be removed from the premises at least once a day during the period the structure is occupied by the public.

2. Revise as follows:

105.6.43 Temporary membrane structures, and tents and canopies. An operational permit is required to operate an air-supported temporary membrane structure or a tent having an area in excess of ~~200~~ 400 square feet (~~19~~ 37 m²), ~~or a canopy in excess of 400 square feet (37 m²).~~

Exceptions:

1. Tents used exclusively for recreational camping purposes.
2. ~~Fabric canopies~~ Tents open on all sides which comply with all of the following:
 - 2.1. Individual ~~canopies~~ tents having a maximum size of 700 square feet (65 m²).
 - 2.2. The aggregate area of multiple ~~canopies~~ tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) shall not exceed 700 square feet (65 m²) total.
 - 2.3. A minimum clearance of 12 feet (3658 mm) to structures and other tents shall be provided.

105.7.13 Temporary membrane structures, and tents and canopies. A construction permit is required to erect an air-supported temporary membrane structure or a tent having an area in excess of ~~200~~ 400 square feet (~~19~~ 37 m²), ~~or a canopy in excess of 400 square feet (37 m²).~~

Exceptions:

1. Tents used exclusively for recreational camping purposes.
2. Funeral tents and curtains or extensions attached thereto, when used for funeral services.
3. ~~Fabric canopies~~ Tents and awnings open on all sides which comply with all of the following:
 - 3.1. Individual ~~canopies~~ tents shall have a maximum size of 700 square feet (65 m²).
 - 3.2. The aggregate area of multiple ~~canopies~~ tents placed side by side without a fire break clearance of not less than 12 feet (3658 mm) shall not exceed 700 square feet (65 m²) total.
 - 3.3. A minimum clearance of 12 feet (3658 mm) to structures and other tents shall be maintained.

**SECTION 202
GENERAL DEFINITIONS**

CANOPY. ~~See Section 2402.4. A structure or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration, and may be structurally independent or supported by attachment to a building on one end and by not less than one stanchion on the outer end.~~

**TABLE 906.1 [IBC [F] TABLE 906.1 (Supp)]
ADDITIONAL REQUIRED PORTABLE FIRE EXTINGUISHERS**

SECTION	SUBJECT
2404.12	Tents, canopies and membrane structures

(Portions of table not shown remain unchanged)

PART II – IBC GENERAL

Revise definitions as follows:

**SECTION 202
DEFINITIONS**

CANOPY. ~~A permanent structure or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration, and shall be structurally independent or and is supported by the attachment to a building to which it is attached and at the outer on one end and by not less than one stanchion on the outer end. A canopy is comprised of a rigid structure over which a covering is attached.~~

TENT (Supp). A structure, enclosure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported in any manner except by air or the contents it protects.

Reason: General:

The pivot point of this proposed code change affecting tents and canopies is the major difference in the way “tents” and “canopies” are defined between the building and fire codes. If it’s agreed the difference is significant and that the two codes need to be correlated, then the majority of changes needed are to be made to the fire code.

With some minor differences in the respective wording, a tent is a tent in either code. But that's not the case with canopies. To date, the building code definition of a canopy has been broad and general enough to encompass most everything thought of in the vernacular, be it a covered walkway or the structure that stands over fuel dispensing islands. Using the current fire code verbiage of a tent or canopy, the following fits the definition of a tent:



This photo fits the definition of a canopy, and at the same time, fits the building code definition of a tent:



In the vernacular, the following are examples of canopies in the building code:



The above photo is also addressed in the fire code as a canopy but it doesn't fit the fire code definition.

Definitions:

The proposed change to the definition of canopy in both codes is to ensure what's being described still includes everything previously thought of in the vernacular but to the exclusion of the fire code's current definition of a canopy which is essentially a tent without sidewalls. Therefore, the definition of canopy is proposed for deletion and relocation in the fire code so as to cover the multiple applications currently found in the code.

By example, while the current definition of canopy in the fire code is found in Chapter 24 Tents, Canopies and Other Membrane Structures, the context and application of a canopy is totally out sync with how canopies are addressed in Chapter 22, Motor Fuel-Dispensing Facilities and Repair Garages. Unlike the temporary nature of tents and canopies in an unchanged Chapter 24, through Chapter 22, canopies are basically independent structures with some permanence expected. In addition, the building code uses the fire code as a reference for the design and construction of canopies at fueling stations. (See IBC Sections 406.5.2, 406.5.2.1 and 2606.10.) By redefining canopies as proposed and locating the revised definition in IFC Chapter 2, it will apply to all sections of the code where canopies are addressed.

Through this proposal, there is no attempt to change the current numerical values found in the code as they relate to exit discharge capacity, the number of exits, occupancy load, etc. What is desired is to change the definitions in both codes to ensure both codes comport with each other.

Code side-by-side comparison:

Attached is a comparison of the building and fire code to help illustrate the need to revise and correlate the definitions of tents and canopies, and how the technical applications of the codes get applied.

IBC Definition	IFC Definition	Permit Thresholds		Proposed change to IBC and IFC	Webster's 3 rd New International Dictionary (as referenced in IFC Section 201.4)
		IBC	IFC		
AWNING. An architectural projection that provides weather protection, identity or decoration and is wholly supported by the building to which it is attached. An awning is comprised of a lightweight, rigid skeleton structure over which a covering is attached.	Silent. Not defined.				
CANOPY. An architectural projection that provides weather protection, identity or decoration and is supported by the building to which it is attached and at the outer end by not less than one stanchion. A canopy is comprised of a rigid structure over which a covering is attached.	CANOPY. A structure, enclosure or shelter constructed of fabric or pliable materials supported by any manner, except by air or the contents it protects, and is open without sidewalls or drops on 75 percent or more of the perimeter.	>0 sq. ft.	>400 sq. ft.	<u>Canopy.</u> A structure or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration, and may be structurally independent or supported by attachment to a building on one end by not less than one stanchion on the outer end.	<u>Canopy.</u> 1: a covering usu. For shelter or protection a: a covering usu. of cloth suspended from the four high posts of a bed d: a temporary or permanent cover providing shelter and decoration (as over a door or window) f: an awning or marquee often stretching from doorway to curb or covering a section of grandstand.
TENT. Any structure, enclosure or shelter which is constructed of canvas or pliable material supported in any manner except by air or the contents it protects.	TENT. A structure, enclosure or shelter constructed of fabric or pliable material supported by any manner except by air or the contents that it protects.	>120 sq. ft. (Sec. 3103.1.1)	>200 sq. ft. Exception: Aggregate (w/ less than 12 ft. fire break) or individual fabric canopies = or <700 sq. ft.	<u>TENT.</u> A structure, enclosure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported by any manner except by air or the contents that it protects.	<u>Tent.</u> 1: a collapsible shelter of canvas or other material stretched and sustained by poles, usu. made fast by ropes attached to pegs hammered into the ground, and used for camping outdoors (as by soldiers or vacationers) or as a temporary building (as for theatrical performance) 3: something that resembles a tent or that serves as a shelter

LIST OF CODE SECTIONS AND TOPICS ADDRESSING TENTS OR CANOPIES

IBC Chapter and Subject	IBC				IFC Chapter and Subject	IFC			
	Canopy		Tents			Canopy		Tents	
1 Administration					1 Administration	105.6.43	Operational permit threshold	105.6.43	Operational permit threshold
						105.7.13	Construction permit threshold	105.7.13	Construction permit threshold
2 Definitions	202	Definition of canopy	202	Definition of tent	2 Definitions				
3 Use and Occupancy Classification					3 General precautions against fire	315.3.1	Storage prohibitions under unsprinklered "eaves, canopies or other projections or		

CODE CHANGES RESOURCE COLLECTION — INTERNATIONAL FIRE CODE

LIST OF CODE SECTIONS AND TOPICS ADDRESSING TENTS OR CANOPIES									
IBC Chapter and Subject	IBC				IFC Chapter and Subject	IFC			
	Canopy		Tents			Canopy		Tents	
						overhangs".			
4 Special detailed requirements based on use and occupancy	406.5.2	Motor fuel dispensing facilities							
	406.5.2.1	Motor fuel dispensing facilities for hydrogen							
					6 Building services and systems			604.2.9	Emergency power for exit signs in temporary tents
7 Fire-resistance rated construction	705.5.2	Fire walls to extend to outer edge of canopies							
					9 Fire protections systems	T903.2.13	Cross ref for add req fire ext for Hydrogen fueling area canopies		
						T906.1	Additional required fire extinguishers	T906.1	Additional required fire extinguishers
10 Means of egress	1025.6.2.2	Smoke protected seating; roof height			10 Means of egress	1025.6.2.2	Smoke protected seating; roof height		
16 Structural design	T1607.1 (30)	Uniform and concentrated live loads from canopies							
	1607.11.2.4	Ref to T1607.1, Sec 1608 & 1609 for uniform live loads of canopies							
					22 Motor fuel-dispensing and repair garages	2202.1	Motor fuel-dispensing facilities; definition of "dispensing device, overhead type" under canopies		
						2203.1(2) Exce	Location of fuel dispensing devices		
						2207.4 Excep	LP dispensing under canopies		
						2208.3.1 Excep	CNG dispensing under canopies		
						T2209.3.1 Note c	Minimum separation for gaseous dispensers from other features		
						2209.3.2.6	Motor fuel-dispensing facilities; canopy tops – hydrogen		
						2209.3.2.6.1	Motor fuel-dispensing facilities;		

LIST OF CODE SECTIONS AND TOPICS ADDRESSING TENTS OR CANOPIES

IBC Chapter and Subject	IBC				IFC Chapter and Subject	IFC			
	Canopy		Tents			Canopy		Tents	
						canopy top construction – hydrogen – refers to IBC 406.5			
					2209.3.2.6.2	Required automatic fire extinguishing system under fueling canopies			
					2209.3.2.6.2.1	Motor fuel-dispensing facility; Emergency hydrogen discharge from canopy			
					2209.3.2.6.3	Motor fuel-dispensing facility; hydrogen canopy signage			
					2209.3.3	Canopy design to prevent hydrogen gas accumulation			
					2209.5.4.1	Location of hydrogen vent not to be under canopy			
				24 Tents, canopies and other membrane structures	2401.1	Scoping of Canopies	2401.1	Scoping of Tents	
					2402.1	Definition of canopy	2402.1	Definition of tent	
					2403.1	General statement of compliance to section	2403.1	General statement of compliance to section	
					2403.2	Approval threshold and exceptions	2403.2	Approval threshold and exceptions	
					2403.5	Limitation of 180 days for temporary canopies	2403.5	Limitation of 180 days for temporary tents	
					2403.6	Construction documents	2403.6	Construction documents	
					2403.8	Access location and parking for temporary canopies	2403.8	Access location and parking for temporary tents	
					2403.8.2	Canopy location with exceptions	2403.8.2	Tent location with exceptions	
							2403.8.4	Connecting corridors between tents	
					2403.8.5	Required fire break around canopies	2403.8.5	Required fire break around tents	
					2403.9	Adequate anchorage requirement	2403.9	Adequate anchorage requirement	
					2403.11	Seating in canopies to comply w/ Chap 10	2403.11	Seating in tents to comply w/ Chap 10	
					2403.12	Means of egress	2403.12	Means of egress	

CODE CHANGES RESOURCE COLLECTION — INTERNATIONAL FIRE CODE

LIST OF CODE SECTIONS AND TOPICS ADDRESSING TENTS OR CANOPIES									
IBC Chapter and Subject	IBC				IFC Chapter and Subject	IFC			
	Canopy		Tents			Canopy		Tents	
					2403.12.1	Means of egress distribution	2403.12.1	Means of egress distribution	
					2403.12.2 & T 2403.12.2	Number of means of egress	2403.12.2 & T 2403.12.2	Number of means of egress	
					2404.1	Temp canopies to comply w/ IFC Permanent canopies to also comply w/ IBC	2404.1	Temp tents to comply w/ IFC. Permanent tents to also comply w/ IBC	
					2404.2	Canopy material to comply w/ 701	2404.2	Tent material to comply w/ 701	
					2404.3	Canopy material label requirement	2404.3	Tent material label requirement	
					2404.4	Certification requirement about fabric treatment	2404.4	Certification requirement about fabric treatment	
					2404.5	Proximity of combustible materials	2404.5	Proximity of combustible materials	
					2404.6	Smoking prohibition	2404.6	Smoking prohibition	
					2404.7	Proximity of open flames	2404.7	Proximity of open flames	
					2404.8	No fireworks w/in 100 feet of canopy	2404.8	No fireworks w/in 100 feet of tent	
					2404.10	Restriction against showing movies under canopies unless using safety film	2404.10	Restriction against showing movies under tents unless using safety film	
					2404.15.2	Venting of heating & cooking equip.	2404.15.2	Venting of heating & cooking equip.	
					2404.15.5	Canopy separation from cooking tents	2404.15.5	Cooking tent separation from other tents	
					2404.15.6	Proximity of outdoor cooking (grease & sparks)	2404.15.6	Proximity of outdoor cooking (grease & sparks)	
					2404.16.2	Location of LP-gas containers	2404.16.2	Location of LP-gas containers	
					2404.16.3	LP-gas container security	2404.16.3	LP-gas container security	
					2404.17.1	Prohibition against using flammable liquid fueled equipment in canopies	2404.17.1	Prohibition against using flammable liquid fueled equipment in tents	
					2404.17.2	Separation requirement between canopy and flammable liquid storage	2404.17.2	Separation requirement between tent and flammable liquid	

LIST OF CODE SECTIONS AND TOPICS ADDRESSING TENTS OR CANOPIES								
IBC Chapter and Subject	IBC				IFC Chapter and Subject	IFC		
	Canopy		Tents			Canopy		Tents
								storage
					2404.18	Display of motor vehicles	2404.18	Display of motor vehicles
					2404.18.2	Prohibition of fueling vehicles in canopies	2404.18.2	Prohibition of fueling vehicles in tents
					2404.18.5	Fuel-fired vehicle competitions & demo under canopy	2404.18.5	Fuel-fired vehicle competitions & demo under tent
					2404.19	Separation of generators from canopies	2404.19	Separation of generators from tent
					2404.20	Standby personnel; fire watch	2404.20	Standby personnel; fire watch
					2404.21	Vegetation removal	2404.21	Vegetation removal
					2404.22	Required removal or clearance of waste material from canopies	2404.22	Required removal or clearance of waste material from tent
26 Plastic	2606.10	Criteria for light-transmitting plastics used in canopies at motor fuel-dispensing facilities						
			2702.2.9	Emergency power for exit signs				
31 Special construction	3101.1	Scoping for canopies						
			3103.1	Temp tents (<180 days) to comply w/ IFC. Permanent tents to comply w/ IBC provisions.				
			3103.4	Temporary structures to comply with Chap 10				
	3105.1	General reference for canopy requirements						
	3105.3	Reference to Chap 16 for wind or lateral loads and live loads for canopies						
	3105.4	Canopy materials; flame spread						
32 Encroachments into the public right-of-way	3201.4	Limit of drainage water from canopy to encroach upon public right-of-way						

CODE CHANGES RESOURCE COLLECTION — INTERNATIONAL FIRE CODE

LIST OF CODE SECTIONS AND TOPICS ADDRESSING TENTS OR CANOPIES									
IBC Chapter and Subject	IBC				IFC Chapter and Subject	IFC			
	Canopy		Tents			Canopy		Tents	
	3202.3.1	Limit of encroachment of canopy structure to public right-of-way							
33 Safeguards during construction	3306.7	Canopy height over walkway							
Appendix D Fire Districts	D102.2.8	Permanent canopies in fire districts							

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IFC

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a needed clarification and improved correlation between the tent and canopy provisions of the IBC and those of the IFC. It was observed, however, that the lack of a definition for canopy in the IFC may become problematic later on. The action is also consistent with the action of the IBC-General Committee on Part II.

Assembly Action:

None

PART II – IBC GENERAL

Committee Action:

Approved as Submitted

Committee Reason: Clarifies within the IBC the difference between a tent-like structure and permanent canopy structure such as those used in locations such as fuel service stations.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

Daniel E. Nichols, New York State Division of Code Enforcement and Administration, representing himself, requests Approval as Modified by this public comment.

Modify proposal as follows:

2404.15.5 Cooking tents. Tents with sidewalls or drops where cooking is performed shall be separated from other tents or membrane structures by a minimum of 20 feet (6096 mm).

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This code proposal was to remove the term 'canopy' and make it synonymous with the term 'tent', both of which are currently defined within the IFC. A comparison table has been provided within the code change proposal showing how the terms are essentially treated the same. However, the subtle change to Section 2404.15.5 drastically changes its meaning.

Currently, IFC Section 2404.15.5 requires tents used for cooking to be separated from other canopies, tents, or other membrane structures by a distance of 20 feet. The difference is that cooking is permitted to be performed in a canopy (tent without sides) and not meet the separation requirements. Clearly, this is more than an editorial change.

The reason for this being such a large change is that many Health Departments (including the State of New York Department of Health) do not find it acceptable to carry food from one tent to another without a covering overhead. The use of a 'canopy' to cook in allows another canopy to be connected as a walkway and then the seating/serving area.

This comment adds the term 'with sidewalls or drops' after the term 'tent' to reintroduce the difference currently recognized in the IFC.

Final Hearing Results

F243-07/08, Part I
F243-07/08, Part II

AMPC
AS

Code Change No: F244-07/08

Original Proposal

Section: 2502.2

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

2505.2 Separation of piles. Individual tire storage piles shall be separated ~~from other piles of salvage~~ by a clear space of at least 40 feet (12 192 mm).

Reason: This code change proposes to remove these words, and as a result clear up the confusion in this section. The separation distances are intended to apply to all tires, new, used or otherwise and provide a separation distance between piles. The word salvage limits the application of this section to only salvage tire piles. The fire load is as significant in the salvage pile as it is in the new tire piles. This proposal will provide for application of the 40 foot separation distance to all piles.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Modified****Modify the proposal as follows:**

2505.2 Separation of piles. Individual tire storage piles shall be separated from other piles by a clear space of at least 40 feet (12 192 mm).

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will remove the limiting language from the section. The modification is consistent with the proponent's reason statement and restores and further clarifies the original intent of the section.

Assembly Action:**None**

Final Hearing Results

F244-07/08

AM

Code Change No: F245-07/08

Original Proposal

Sections: 2701.2.2.1, 2702.1 (IBC [F] 307.2)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

1. Revise as follows:

2701.2.2.1 Physical hazards. The material categories listed in this section are classified as physical hazards. A material with a primary classification as a physical hazard can also pose a health hazard.

1. Explosives and blasting agents.
2. Flammable and combustible liquids.
3. Flammable solids ~~and gases~~.
4. Organic peroxide materials.
5. Oxidizer materials.
6. Pyrophoric materials.
7. Unstable (reactive) materials.
8. Water-reactive solids and liquids.
9. Cryogenic fluids.
10. Compressed gases.

2. Revise definition as follows:

2702.1 (IBC [F] 307.2) Definitions. The following words and terms shall, for the purposes of this chapter, Chapters 28 through 44 and as used elsewhere in this code, have the meanings shown herein.

PHYSICAL HAZARD. A chemical for which there is evidence that it is a combustible liquid, compressed gas, cryogenic, explosive, ~~flammable gas~~, flammable liquid, flammable solid, organic peroxide, oxidizer, pyrophoric or unstable (reactive) or water-reactive material.

Reason: All compressed gases are physical hazards by definition. Those gases that are regulated as either physical or health hazards within the context of Chapter 27 are identified in Tables 2703.1.1(1) through 2703.1.1(4). Compressed gases with no listed MAQ are not regulated within Chapter 27; however, they are regulated by Chapter 30.

Deleting the term “and gases” from item 3 of Section 2701.2.2.1 and adding a general category of “compressed gases” and deleting the term “flammable gas” from the definition will correlate this section with the definition of physical hazard.

Revision of the term physical hazard has been made to delete “flammable gas” as it is redundant to the category of “compressed gas.”

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Disapproved at the request of the proponent who wishes to revise the proposal to reflect a consensus that has been reached on how to better deal with physical and health hazards since the proposal was first submitted.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Larry Fluer, Fluer, Inc., representing Compressed Gas Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

2701.2.2.1 Physical hazards. The material categories listed in this section are classified as physical hazards. A material with a primary classification as a physical hazard can also pose a health hazard.

1. Explosives and blasting agents.
2. ~~Flammable and~~ Combustible liquids.
3. Flammable solids, liquids and gases.
4. Organic peroxide ~~materials~~ solids or liquids.
5. Oxidizer ~~materials~~ solids or liquids.
6. Oxidizing gases.
7. Pyrophoric ~~materials~~ solids, liquids or gases.
8. Unstable (reactive) materials solids, liquids or gases.
9. Water-reactive materials solids and or liquids.
10. Cryogenic fluids.
- ~~10. Compressed gases.~~

2702.1 (IBC [F] 307.2) Definitions. The following words and terms shall, for the purposes of this chapter, Chapters 28 through 44 and as used elsewhere in this code, have the meanings shown herein.

PHYSICAL HAZARD. A chemical for which there is evidence that it is a combustible liquid, ~~compressed gas~~, cryogenic fluid, explosive, flammable solid, liquid or gas, ~~flammable liquid, flammable solid~~, organic peroxide solid or liquid, oxidizer solid or liquid, oxidizing gas, pyrophoric solids, liquid or gas or unstable (reactive) materials solid, liquid or gas or water-reactive materials, solid or liquid.

Commenter's Reason: The original submittal was initially triggered by the introduction of a definition for oxidizing gases and changes in terminology to clarify the differences between "oxidizer, solids and liquids" vs. oxidizing gases. During discussion with participants at the committee hearings a concern was raised with the inclusion of a general category of "compressed gas" to the list of physical hazards even though the term was used within the definition itself.

The proposed modification adds oxidizing gases to the list of items in Section 2701.2.2.1 and correlates the terminology used in the definition with that used in the list of materials. The apparent inconsistency in terminology for unstable and water reactive materials is driven by the definitions as they appear in material specific chapters 43 and 44 respectively using the term "unstable (reactive) material" to include solids, liquids and gases and the term "water-reactive material" to describe the material regulated which is limited to the solid and liquid form of materials in this category.

Approval of this modification will bring consistency between the definition of physical hazard and the list of materials regulated as physical hazards within the context of the IFC.

Final Hearing Results

F245-07/08

AMPC

Code Change No: F246-07/08

Original Proposal

Sections: 2701.5.1, 2701.5.2, Appendix H

Proponents: William Winslow, representing Washington State Association of Fire Marshals; Pat McLaughlin, representing Sherwin Williams Company

1. Revise as follows:

2701.5.1 Hazardous Materials Management Plan. Where required by the fire code official, ~~each~~ an application for a permit shall include a Hazardous Materials Management Plan (HMMP). The HMMP shall include a facility site plan designating the following:

1. Access to each storage and use areas.
2. ~~Maximum amount of each material stored or used in each area.~~ Location of emergency equipment.
3. ~~Range of container sizes.~~ Location where liaison will meet emergency responders.
4. ~~Locations of emergency isolation and mitigation valves and devices.~~ Facility evacuation meeting point locations.
5. ~~Product conveying piping containing liquids or gases, other than utility-owned fuel gas lines and low-pressure fuel gas lines.~~ The general purpose of other areas within the building.
6. ~~On and off positions of valves for valves that are of the self-indicating type.~~ Location of all aboveground and underground tanks and their appurtenances including, but not limited to, sumps, vaults, below-grade treatment systems, and piping.
7. ~~Storage plan showing the intended storage arrangement, including the location and dimensions of aisles.~~ The hazard classes in each area.
8. ~~The location and type of emergency equipment. The plans shall be legible and drawn approximately to scale. Separate distribution systems are allowed to be shown on separate pages.~~ Show locations of all control areas and Group H occupancies.
9. The emergency exits.

2701.5.2 Hazardous Materials Inventory Statement (HMIS). Where required by the fire code official, an application for a permit shall include an HMIS, such as SARA (Superfund Amendments and Reauthorization Act of 1986) Title III, Tier II Report, or other approved statement. The HMIS shall include the following information:

1. Manufacturer's Product name.
 2. Chemical name, trade names, hazardous ingredients Component.
 3. Hazard classification Chemical Abstract Service (CAS) Number.
 4. MSDS or equivalent Location where stored or used.
 5. United Nations (UN), North America (NA) or the Chemical Abstract Service (CAS) identification number Container size.
 6. Maximum quantity stored or used on-site at one time Hazard classification.
 7. Amount in storage conditions related to the storage type, temperature and pressure.
 8. Amount in use-closed systems.
 9. Amount in use-open systems.
2. **Delete Appendix H (Supp) in its entirety and substitute a new Appendix H, including Instructions and Figures 1 through 6 as follows:**

APPENDIX H
HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) AND
HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) INSTRUCTIONS

SECTION H101 – HMMP

1.1 Part A (See Example Format in Figure 1)

- 1.1.1 Fill out items and sign the declaration.
- 1.1.2 Part A of this section is required to be updated and submitted annually, or within 30 days of a process or management change.

1.2 Part B – General Facility Description / Site Plan (See Example Format in Figure 2)

- 1.2.1 Provide a site plan on 8½- by 11-inch (215 mm by 279 mm) paper, showing the locations of all buildings, structures, outdoor chemical control or storage and use areas, parking lots, internal roads, storm and sanitary sewers, wells, and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.

1.3 Part C – Facility Storage Map - Confidential Information (See Example Format in Figure 3)

- 1.3.1 Provide a floor plan of each building identified on the site plan as containing hazardous materials on 8½- by 11-inch (215 mm by 279 mm) paper, identifying the northern direction, and showing the location of each storage and use area.
- 1.3.2 Identify storage and use areas, including hazard waste storage areas
- 1.3.3 Show the following:
- 1.3.3.1 Accesses to each storage and use area.
- 1.3.3.2 Location of emergency equipment.
- 1.3.3.3 Location where liaison will meet emergency responders.
- 1.3.3.4 Facility evacuation meeting point locations.
- 1.3.3.5 The general purpose of other areas within the building.
- 1.3.3.6 Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.
- 1.3.3.7 Show hazard classes in each area.
- 1.3.3.8 Show locations of all H occupancies, control areas, and exterior storage and use areas.
- 1.3.3.9 Show emergency exits.

SECTION H102 – HMIS

2.1 Inventory Statement

- 2.1.1 HMIS Summary Report (See Example Format in Figure 4).
- 2.1.1.1 Complete a summary report for each control area and H occupancy.
- 2.1.1.2 The storage summary report includes the HMIS Inventory Report amounts in storage, use-closed, and use-open conditions.
- 2.1.1.3 Provide separate summary reports for storage, use-closed and use-open conditions.
- 2.1.1.4 IBC/IFC Hazard Class.
- 2.1.1.5 Inventory Amount. (Solid (lb), Liquid (gal), Gas (cu ft, gal or lbs)).
- 2.1.1.6 IBC/IFC Maximum Allowable Quantity. (If applicable, double MAQ for sprinkler protection and/or storage in cabinets. For wholesale and retail sales occupancies, go to Tables 2703.11.1 and 3404.3.4.1 for MAQs.).

- 2.1.2 HMIS Inventory Report (See Example Format in Figure 5).
2.1.2.1 Complete an inventory report by listing products by location.
2.1.2.2 Product Name
2.1.2.3 Components (For mixtures specify percentages of major components if available)
2.1.2.4 CAS Number. (For mixtures list CAS Numbers of major components if available).
2.1.2.5 Location. (Identify the control area or, if it is an H occupancy, provide the classification, such as H-2, H-3, etc).
2.1.2.6 Container > 55 gal. (If product container, vessel or tank could exceed 55 gallons, indicate yes in column).
2.1.2.7 Hazard Classification. (List applicable classifications for each product).
2.1.2.8 Stored. (Amount of product in storage conditions).
2.1.2.9 Closed. (Amount of product in use-closed systems).
2.1.2.10 Open. (Amount of product in use-open systems).

SECTION H103 – EMERGENCY PLAN

- 3.1 Emergency Notification (See Example Format in Figure 6)
3.2 Where OSHA or State regulations require a facility to have either an Emergency Action Plan (EAP) or an Emergency Response Plan (ERP), the EAP or ERP shall be included as part of the HMMP.

FIGURE 1 HAZARDOUS MATERIALS MANAGEMENT PLAN SECTION I: FACILITY DESCRIPTION

PART A – GENERAL INFORMATION

1. Business Name: _____ Phone: _____
 Address: _____

2. Person Responsible for the Business:
- | Name | Title | Phone |
|-------|-------|-------|
| _____ | _____ | _____ |
3. Emergency Contacts:
- | Name | Title | Home Number | Work Number |
|-------|-------|-------------|-------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
4. Person Responsible for the Application/Principal Contact:
- | Name | Title | Phone |
|-------|-------|-------|
| _____ | _____ | _____ |
5. Principal Business Activity:

6. Number of Employees: _____
7. Number of Shifts: _____
 a. Number of Employees per Shift:

8. Hours of Operation:

**FIGURE 2
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION I: FACILITY DESCRIPTION**

PART B – GENERAL FACILITY DESCRIPTION/SITE PLAN

**FIGURE 3
HAZARDOUS MATERIALS MANAGEMENT PLAN**

SECTION I: FACILITY DESCRIPTION

PART C – FACILITY MAP

Business Name	Date
Address	Page of

FIGURE 4

SECTION II - HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)

HMIS SUMMARY REPORT ⁽¹⁾(Storage ⁽²⁾ Conditions)⁽³⁾

IBC/IFC HAZARD CLASS	HAZARD CLASS	INVENTORY AMOUNT			IBC/IFC MAXIMUM ALLOWABLE QUANTITY ⁽⁴⁾		
	(Abbrev)	Solid (lb)	Liquid (gal)	Gas (cu ft, gal, lb)	Solid (lb)	Liquid (gal)	Gas (cu ft, gal, lb)
Combustible Liquid	C2		5			120	
	C3A					330	
	C3B		6			13200	
Combustible Fiber	Loose Baled						
Cryogenics, Flammable	CryO-Flam					45	
Cryogenics, Oxidizing	CryO-Ox					45	
Flammable Gas	FLG						
		(Gaseous)			150		1000
		(Liquefied)				30	
Flammable Liquid	F1A					30	
	F1B & F1C		5			120	
Combination (1A, 1B, 1C)			5			120	
Flammable Solid	FLS				125		
Organic Peroxide	OPU				0		
	OP1				5		
	OP2				50		
	OP3				125		
	OP4				NL		
	OP5				NL		
Oxidizer	OX4				0		
	OX3				10		
	OX2				250		
	OX1				4000		

(1) Complete a summary report for each control area and H occupancy.

(2) Storage = storage + use-closed + use-open systems

(3) Separate reports are required for use-closed and use-open systems

(4) Include increases for sprinklers or storage in cabinets, if applicable

(This is an example, add additional hazard classes as needed)

FIGURE 5
SECTION II - HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)
HMIS INVENTORY REPORT

(Sort Products Alphabetically by Location of Product and then Alphabetically by Product Name)

Product Name (Components) ⁽³⁾	CAS Number	Location (1)	Container > 55 gal ⁽²⁾	Haz Class 1	Haz Class 2	Haz Class 3	Stored (lbs)	Stored (gal)	Stored gas ⁽⁴⁾	Closed (lbs)	Closed (gal)	Closed gas ⁽⁴⁾	Open (lbs)	Open (gal)
ACETYLENE (Acetylene gas)	74-86-2	Control Area 1		FLG	UR2				150					
BLACK AEROSOL SPRAY PAINT (Mixture)	Mixture	Control Area 1		A-L3			24							
GASOLINE, UNLEADED (Gasoline-Mixture (Methyl-t-Butyl Ether-15%; Diisopropyl Ether-7%; Ethanol-11%; Toluene-12%; Xylene-11%))	8006-61-9 1634-04-4 108-20-3 64-17-5 108-88-3 1330-20-7	Control Area 1		F1B				5						
MOTOR OIL 1040 (Hydrotreated Heavy Paraffinic Distillate-85%; Additives-20%)	64742-54-7 Mixture	Control Area 1		C3B				3						
DIESEL (Diesel - 99-100%; Additives)	68476-34-6 Proprietary	Control Area 2	Yes	C2				225						
TRANSMISSION FLUID (Oil-Solvent Neutral; Performance Additives)	64742-65-0	Control Area 2		C3B				3						
OXYGEN, GAS (Oxygen)	7782-44-7	H-3		OXG					5000					

- (1) Identify the control area or, if it is an H occupancy, provide the classification, such as H-2, H-3, etc.
- (2) If the product container, vessel, or tank could exceed 55 gallons, indicate yes in the column.
- (3) Specify percentages of main components if available
- (4) In cubic feet, gallons, or pounds

**FIGURE 6
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION III: EMERGENCY PLAN**

1. In the event of an emergency, the following shall be notified:

a. Facility Liaison

Name	Title	Home Phone	Cell Phone
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

b. Agency

Agency	Contact	Phone Number
Fire Department	_____	_____
LEPC	_____	_____
Other	_____	_____

Reason: IFC Sections 2701.5.1 and 2701.5.2 specify the contents of a Hazardous Materials Management Plan and a Hazardous Materials Inventory Statement when these documents are required by the Fire Code Official. In the 2006 – 2007 code development cycle, Appendix H, covering HMMPs and HMISs, was added to the IFC. The materials in this appendix were taken from the Uniform Fire Code. At the time of its adoption, there was broad agreement among fire service and industry representatives that Sections 2701.5.1, 2701.5.2 and Appendix H needed modifications to make them useful for the code official and cost effective for businesses. These new Sections 2701.5.1, 2701.5.2 and Appendix H were the result of a collaborative effort by the Washington State Association of Fire Marshals and Sherwin Williams Company. They focus on three important goals. First, the HMMP includes information that fire department operations personnel need before and during an emergency response. Second, the HMMP and HMIS provide hazardous materials storage and use information necessary for inspectors. Third, the HMIS is formatted so that plan reviewers can determine the correct occupancy classifications. The amounts of each hazard class in storage and use and the applicable Maximum Allowable Quantities are provided in the HMIS. This coordinates with IFC code change proposal F22306/07, which was approved as modified at the final action hearings in Rochester, New York. This proposal requires the total of each hazard class to be provided in the HMIS.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

Add a new section to Appendix H as follows:

1.4 HMMP short form. Facilities with the maximum allowable quantities or less per control area in Tables 2703.3.3(10) through 2703.1.1(4) and where the threshold planning quantities at 40 CFR Part 355, Sections 302 and 304 are not exceeded, shall be allowed to file a short-form HMMP which shall include the following components.

1.4.1. General facility information:

1.4.2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored;

1.4.3. Information that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored, and

1.4.4. Assurance that security precautions have been take, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained and the disposal of hazardous materials will be in an appropriate manner.

Add an introduction to Section H102, as follows:

Facilities which have prepared, filed and submitted a Tier II Inventory Report required by the U.S. Environmental Protection Agency (USEPA) or required by a state which has secured USEPA approval for a similar form shall be deemed to have complied with this section.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved because the committee felt that the proponents had reached agreement on Appendix H format and contents and had appropriately responded to the committee's suggestions in the last cycle. It was suggested that the appendix could be improved by creating a separate section on emergency preparedness/emergency response and to move the items related to those topics out of their current locations in the HMMP section. The modification provides a useful "short form" HMMP that has been accepted by the proponents for facilities not classified in Group H (i.e., having no more than the MAQ per control area).

Assembly Action:

None

Final Hearing Results

F246-07/08

AM

Code Change No: **F247-07/08**

Original Proposal

Table 2703.1.1(1) [IBC [F] Table 307.1(1)], Table 2703.1.1(3)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Revise tables as follows:

TABLE 2703.1.1(1) [IBC [F] 307.1(1)](Supp)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A PHYSICAL HAZARD^{a,j,m,n,p}

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b			USE-OPEN SYSTEMS ^b	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)
Inert gas	Gaseous	Not Applicable	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable
	Liquefied	Not Applicable	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable
Cryogenic Inert	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable

(Portions of table and footnotes not shown remain unchanged)

TABLE 2703.1.1(3) (Supp)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A PHYSICAL HAZARD IN AN OUTDOOR CONTROL AREA^{a,b,c}

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b			USE-OPEN SYSTEMS ^b	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)
Inert gas	Gaseous	Not Applicable	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable
	Liquefied	Not Applicable	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable
Cryogenic Inert	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable	Not Limited	Not Applicable	Not Applicable

(Portions of table and footnotes not shown remain unchanged)

Reason: Permits are required for inert gases when exceeding the amounts indicated in Tables 105.6.8 and 105.6.10; however, occupancy is not determined based on a quantity of inert gas. With respect to the table inert gases should be treated in a manner similar to Unstable Reactive or Water Reactive Class 1 materials where the quantity is indicated as “unlimited.” This change will coordinate the MAQ tables with Section 2701.2.2.1 which lists cryogenics and the definition of physical hazard in Section 2702.1 which lists definitions and includes all “compressed gases.”

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the additional table entries will provide needed guidance to the fire code official in determining occupancy Group H.

Assembly Action:

None

Final Hearing Results

F247-07/08

AS

Code Change No: **F249-07/08**

Original Proposal

Section: 2703.2.1, Chapter 45

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing Steel Tank Institute

1. Revise as follows:

2703.2.1 Design and construction of containers, cylinders and tanks. Containers, cylinders and tanks shall be designed and constructed in accordance with approved standards. Containers, cylinders, tanks and other means used for containment of hazardous materials shall be of an approved type. Pressure vessels shall comply with the ASME Boiler and Pressure Vessel Code.

2. Revise Chapter 45 as follows:

ASME

BPVC-2004 2004 ASME Boiler and Pressure Vessel Code

Reason: Although the ASME Boiler and Pressure Vessel Code is the nationally recognized general standard for construction of pressure vessels, there is no direct link to this standard as a basis for constructing pressure vessels containing hazardous materials. The shortcoming of such a general reference for pressure vessel construction was noted in a recent U.S. Chemical Safety Board report on a 2004 explosion at Marcus Oil in Houston, Texas.

Likewise, a similar is also missing for vessels that do not contain hazardous materials, which are regulated in the IMC. A separate proposal has been submitted to the IMC to accomplish that change.

For specific cases where alternative standards may be appropriate, such as DOT standards for compressed gases as an example, material or process specific chapters provide these alternatives, and the code will recognize the hierarchy of specific provisions trumping general provisions to permit these alternatives.

The referenced edition of the BPVC has been updated to 2004, which is the most current edition. This correlates with the edition adopted by the IMC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will provide technical specifications for pressure vessels.

Assembly Action:

None

Final Hearing Results

F249-07/08

AS

Code Change No: **F252-07/08**

Original Proposal

Section: 2703.2.9

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

2703.2.9 Testing. The equipment, devices and systems listed in Section 2703.2.9.1 shall be tested at the time of installation and at one of the intervals listed in Section 2703.2.9.2. Written records of the tests conducted or maintenance performed shall be maintained in accordance with the provisions of Section 107.2.1.

Exceptions:

1. Testing shall not be required where approved written documentation is provided stating that testing will damage the equipment, device or system and the equipment, device or system is maintained as specified by the manufacturer.
2. Testing shall not be required for equipment, devices and systems that fail in a fail-safe manner.
3. Testing shall not be required for equipment, devices and systems that self-diagnose and report trouble. Records of the self-diagnosis and trouble reporting shall be made available to the fire code official.
4. Testing shall not be required if system activation occurs during the required test cycle for the components activated during the test cycle.
5. Approved maintenance in accordance with Section 2703.2.6 that is performed not less than annually or in accordance with an approved schedule shall be allowed to meet the testing requirements set forth in Sections 2703.2.9.1 and 2703.2.9.2.

Reason: This code change proposal is a clarification. New equipment, systems, and devices regulated by 2703.2.9 need to be tested at the time of installation to ensure that they operate as intended. It is standard practice to test new fire detection and alarm systems. This should be the same for new hazardous materials safety systems, equipment, and devices.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2703.2.9 Testing. The equipment, devices and systems listed in Section 2703.2.9.1 shall be tested at the time of installation and at one of the intervals listed in Section 2703.2.9.2. Written records of the tests conducted or maintenance performed shall be maintained in accordance with the provisions of Section 107.2.1.

Exceptions:

1. Periodic testing shall not be required where approved written documentation is provided stating that testing will damage the equipment, device or system and the equipment, device or system is maintained as specified by the manufacturer.
2. Periodic testing shall not be required for equipment, devices and systems that fail in a fail-safe manner.
3. Periodic testing shall not be required for equipment, devices and systems that self-diagnose and report trouble. Records of the self-diagnosis and trouble reporting shall be made available to the fire code official.
4. Periodic testing shall not be required if system activation occurs during the required test cycle for the components activated during the test cycle.
5. Approved maintenance in accordance with Section 2703.2.6 that is performed not less than annually or in accordance with an approved schedule shall be allowed to meet the testing requirements set forth in Sections 2703.2.9.1 and 2703.2.9.2.

Committee Reason: The proposal was approved because the committee felt that it would provide improved safety by requiring acceptance testing rather than periodic tests only. The modification clarifies the proponent's intent that exceptions 1 through 4 should not apply to the acceptance tests.

Assembly Action:

None

Final Hearing Results

F252-07/08

AM

Code Change No: **F254-07/08**

Original Proposal

Sections: 2704.7; IBC [F] 414.5.4

Proponent: Lance H. Edwards, The National Paint & Coatings Association

Revise as follows:

2704.7 (Supp) Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with NFPA 70 and Section 604.

Exceptions:

1. Standby or emergency power for mechanical ventilation for storage of flammable and combustible liquids in single story occupancies.
- ~~1-2.~~ Storage areas for Class 1 and 2 oxidizers.
- ~~2-3.~~ Storage areas for Class II, III, IV and V organic peroxides.
- ~~3-4.~~ Storage areas for asphyxiant, irritant and radioactive gases.
- 4-5. For storage areas for highly toxic or toxic materials, see Sections 3704.2.2.8 and 3704.3.2.6.
- ~~5-6.~~ Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

[F] 414.5.4 (Supp) Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with Section 2702.

Exceptions:

1. Standby or emergency power for mechanical ventilation for storage of flammable and combustible liquids in single story occupancies.
- ~~1-2.~~ Storage areas for Class 1 and 2 oxidizers.
- ~~2-3.~~ Storage areas for Class II, III, IV and V organic peroxides.
- ~~3-4.~~ Storage areas for asphyxiant, irritant and radioactive gases.
- 4-5. For storage, use and handling areas for highly toxic or toxic materials, see Sections 3704.2.2.8 and 3704.3.2.6 of the *International Fire Code*.
- ~~5-6.~~ Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

Reason: This proposal will remove the requirement for standby power for flammable and combustible liquid storage ventilation. The requirement for standby power was originally not applicable to flammable and combustible liquids. NFPA 30 never required it for storage and still does not. When the Chapter 27 ventilation requirements were applied to flammable and combustible liquids storage the standby power requirement was inadvertently picked up. When enforced, it is a costly provision with very limited benefit. This proposal will coordinate the IFC and NFPA 30 requirements for standby power for flammable and combustible liquids storage ventilation. These materials are in sealed containers in storage so we do not see the need for the redundant requirement for standby power for ventilation for this condition.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

2704.7 (Supp) Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with NFPA 70 and Section 604.

Exceptions:

1. ~~Standby or emergency power for m~~ Mechanical ventilation for storage of Class IB and Class IC flammable and combustible liquids in closed containers not exceeding 6.5 gallons (25 L) capacity single story occupancies.
2. Storage areas for Class 1 and 2 oxidizers.
3. Storage areas for Class II, III, IV and V organic peroxides.
4. Storage areas for asphyxiant, irritant and radioactive gases.
5. For storage areas for highly toxic or toxic materials, see Sections 3704.2.2.8 and 3704.3.2.6.
6. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

[F] 414.5.4 (Supp) Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with Section 2702.

Exceptions:

1. ~~Standby or emergency power for m~~ Mechanical ventilation for storage of Class IB and Class IC flammable and combustible liquids in closed containers not exceeding 6.5 gallons (25 L) capacity single story occupancies.
2. Storage areas for Class 1 and 2 oxidizers.
3. Storage areas for Class II, III, IV and V organic peroxides.
4. Storage areas for asphyxiant, irritant and radioactive gases.
5. For storage, use and handling areas for highly toxic or toxic materials, see Sections 3704.2.2.8 and 3704.3.2.6 of the *International Fire Code*.
6. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change. The modification correlates with industry treatment of portable container storage. Notably, FM Global recognizes that storage of small, closed containers does not pose a risk that warrants ventilation for these materials. FM Data Sheet 7-29, *Flammable and Combustible Liquid Storage in Portable Containers*, does not require mechanical ventilation for flammable liquids in closed containers of not greater than 6.5 gallons individual capacity, with a flash point of not greater than 100 °F and a boiling point equal to or greater than 100°F. NFPA 30, *Flammable and Combustible Liquids Code*, also recognizes that closed container storage does not pose a risk that warrants ventilation (ventilation is required if there is open dispensing). These materials are in sealed containers in storage. Any loss of power would require an immediate cessation of operations, which would eliminate spill risk. By limiting the container size, the potential for accidental spills is significantly reduced.

Assembly Action:

None

Final Hearing Results

F254-07/08

AM

Code Change No: F257-07/08

Original Proposal

Section: 2705.1.11

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing himself

Revise as follows:

2705.1.11 (Supp) Design. Systems shall be suitable for the use intended and shall be designed by persons competent in such design. Controls shall be designed to prevent materials from entering or leaving the process or reaction system at other than the intended time, rate, or path. Where failure of an automatic control could result in a dangerous condition or reaction, the automatic control shall be fail-safe. ~~Where automatic safety controls are used to prevent a dangerous condition or reaction, they shall be designed to be fail safe.~~

Reason: When Proposal F231-06/07 was processed last cycle, a commitment was made to further clarify the intended application of this section. To satisfy that commitment, this revision has been submitted to make it clear that ANY automatic control that could cause a dangerous condition or reaction upon failure must be fail-safe. The 2007 Supplement text limits applicability of the fail-safe requirement to SAFETY CONTROLS that could cause a dangerous condition or reaction upon failure.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The proposal was approved because the committee felt that it clarifies the intent of the section regarding the operation of automatic controls.

Assembly Action:**None**

Final Hearing Results

F257-07/08

AS

Code Change No: F260-07/08

Original Proposal

Sections: 3003.7.11 (New), 3002.1 (New)**Proponent:** Larry Fluer, Fluer, Inc., representing Compressed Gas Association**1. Add new text as follows:**

3003.7.11 Tube trailers. Tube trailers including those containing compatible compressed gases shall be surrounded by a clear space of not less than 3 feet (914 mm) to allow for maintenance, access and inspection.

3003.7.11.1 Individual tube trailers containing incompatible materials. Increased separation distances between individual tube trailers containing incompatible gases shall be provided when required by 3003.7.1.

3003.7.11.2 Connections. Piping systems used to connect tube trailers to a user piping system shall not be viewed as an encroachment into the 3 foot (914 mm) clear space.

2. Add new definition as follows:

3002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

TUBE TRAILER. A semitrailer on which a number of tubular gas cylinders have been mounted. A manifold is typically provided that connects the cylinder valves enabling gas to be discharged from one or more tubes or cylinders through a piping and control system.

Reason: It is common to have more than one tube trailer on a site. A minimum separation should be provided between tube trailers to allow for access and passage of those involved in service and use activities. At filling plants operators must access the vehicles for maintenance and service related work, and at user locations access is needed to allow users unimpeded movement including access and egress. A distance of 36 inches has been selected as it accommodates a "man width" of 22 inches while addressing the fact that there could be service related connections or fittings that require them to be attended. Section 2206.2.6 requires a 3 foot clearance around flammable liquid tanks when installed inside of buildings in special enclosures to allow for access and maintenance. Although not directly related, Sections 1805.2.2.3 and 1805.2.3.4 requires a 3 foot horizontal service clearance at work stations where hazardous conditions including electrical connections, gas-cylinder connections and similar conditions may exist.

A similar definition for tube trailer is found in NFPA 55.

Provisions have been made to allow for piping systems to be connected to the tube trailer so that the piped connection is not viewed as an encroachment on the clearance otherwise required.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The proposal was approved because the committee felt that it will provide appropriate regulation of tube trailers.

Assembly Action:

None

Final Hearing Results

F260-07/08

AS

Code Change No: F262-07/08

Original Proposal

Sections: 3204.3, 3205.3.1

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Revise as follows:

3204.3 Outdoor storage. Outdoor storage of containers shall be in accordance with Sections 3204.3.1 through ~~3204.3.1.2.3~~ 3204.3.2.2.

~~**3204.3.1 Stationary containers.** The outdoor storage of stationary containers shall comply with Section 3203 and this section.~~

~~**3204.3.1 3203.6 Separation from hazardous conditions.** Cryogenic containers and systems in outdoor storage or use shall be separated from materials and conditions which pose exposure hazards to or from each other in accordance with Sections ~~3203.6.4~~ 3204.3.1.1 through ~~3203.6.2.4~~ 3204.3.1.1.5~~

~~**3204.3.1.1 3203.6.4 Stationary containers.** Stationary containers shall be separated from exposure hazards in accordance with the provisions applicable to the type of fluid contained and the minimum separation distances indicated in Table ~~3204.3.1.1~~ 3203.6.4.~~

**TABLE ~~3203.6.4~~ 3204.3.1.1
SEPARATION OF STATIONARY CONTAINERS FROM EXPOSURE HAZARDS**

EXPOSURE	MINIMUM DISTANCE (feet)
Buildings, regardless of construction type	1
Wall openings	1
Air intakes	10
Lot lines	5
Places of public assembly	50
Nonambulatory patient areas	50
Combustible materials such as paper, leaves, weeds, dry grass or debris	15
Other hazardous materials	In accordance with Chapter 27

~~**3204.3.1.1.1 3203.6.4.4 Point-of-fill connections.** Remote transfer points and fill connection points shall not be positioned closer to exposures than the minimum distances required for stationary containers.~~

~~**3204.3.1.1.2 3203.6.4.2 Surfaces beneath containers.** The surface of the area on which stationary containers are placed, including the surface of the area located below the point where connections are made for the purpose of filling such containers, shall be compatible with the fluid in the container.~~

~~**3204.3.1.1.3 3204.3.1.1 (Supp) Location.** Stationary containers shall be located in accordance with Section ~~3203.6~~. Containers of cryogenic fluids shall not be located within diked areas containing other hazardous materials.~~

3204.3.1.1.4 ~~3204.3.1.2~~ Areas subject to flooding. Stationary containers located in areas subject to flooding shall be securely anchored or elevated to prevent the containers from separating from foundations or supports.

3204.3.1.1.5 ~~3204.3.1.3~~ Drainage. The area surrounding stationary containers shall be provided with a means to prevent accidental discharge of fluids from endangering personnel, containers, equipment and adjacent structures or to enter enclosed spaces. The stationary container shall not be placed where spilled or discharged fluids will be retained around the container.

Exception: These provisions shall not apply when it is determined by the fire code official that the container does not constitute a hazard, after consideration of special features such as crushed rock utilized as a heat sink, topographical conditions, nature of occupancy, proximity to structures on the same or adjacent property, and the capacity and construction of containers and character of fluids to be stored.

3204.3.1.2 ~~3204.3.2~~ Outdoor storage of portable containers. Outdoor storage of portable containers shall comply with Section 3203 and Sections 3204.3.1.2.1 through 3204.3.1.2.3.

3204.3.2.1 ~~Location.~~ Portable containers shall be located in accordance with Section 3203.6.

3204.3.1.2.1 ~~3203.6.2~~ Exposure hazard separation Portable containers. Portable containers in outdoor storage shall be separated from exposure hazards in accordance with Table ~~3203.6.2~~ 3204.3.1.2.1.

**TABLE ~~3203.6.2~~ 3204.3.1.2.1
SEPARATION OF PORTABLE CONTAINERS FROM EXPOSURE HAZARDS**

EXPOSURE	MINIMUM DISTANCE (feet)
Building exits	10
Wall openings	1
Air intakes	10
Lot lines	5
Room or area exits	3
Combustible materials such as paper, leaves, weeds, dry grass or debris	15
Other hazardous materials	In accordance with Chapter 27

3204.3.1.2.2 ~~3203.6.2.1~~ Surfaces beneath containers. Containers shall be placed on surfaces that are compatible with the fluid in the container.

3204.3.1.2.3 ~~3204.3.2.2~~ Drainage. The area surrounding portable containers shall be provided with a means to prevent accidental discharge of fluids from endangering adjacent containers, buildings, equipment or adjoining property.

Exception: These provisions shall not apply when it is determined by the fire code official that the container does not constitute a hazard.

3205.3.1 ~~Separation.~~ Distances from property lines, buildings and exposure hazards shall comply with Section ~~3203.6~~ 3204.3 and the material specific provisions of Section 3201.1.

Reason: During the last code cycle a new section was added to Chapter 40 to address the use of liquid oxygen in home health care. Deliberations and dialog of interested parties revealed an organizational problem with Chapter 32 between requirements for indoor systems vs. outdoor systems. The organizational problems are intended to be resolved by the proposed code change. The primary purpose of the code change is reorganization.

Existing Section 3203.6 was included as a "general provision" applicable to cryogenic containers and systems. The provisions are intended to apply to outdoor containers and systems and not to circumstances where these materials are located indoors. Section 3203.6 has been relocated with minor changes to Section 3204.3 for outdoor storage, and Section 3204.3 has been reorganized to integrate the provisions. Specific changes other than those used for the purposes of cross reference were as follows:

3204.3.1 was deleted as it was redundant.

3203.6 now 3204.3.1 was modified to include the term "outdoor" for clarity and to delete the reference to use as use is addressed in Section 3205.

3204.3.1.1 was relocated to 3204.3.1.1.3.

3204.3.2 was relocated to 3204.3.1.2 and editorially revised to match code style guidelines.

3204.3.2.1 was deleted as it was redundant.

3203.6.2 now 3204.3.1.2.1 was revised to include the term "outdoor" for clarity and the title was revised to eliminate redundancy with 3204.3.1.2.

Table 3203.6.2 now Table 3204.3.1.2.2. The row for room or area exits has been deleted as the table does not apply to indoor applications. Questions arose during the debate and discussions on the use of liquid oxygen (LOX) in home health care where a code user was applying Table

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

3203.6.2 to indoor uses. As Section 3203.6 was included as a general provision the concern was understandable. Redirection of these provisions to outdoor storage resolves the problem. The means of egress from rooms, buildings and areas is regulated by Chapter 10. Section 1015.2 requires that exits or exit access doorways be unobstructed. Section 1028 requires that the means of egress be maintained.

A cross reference to Section 3203.6 in 3205.3.1 has been correlated with the proposed change.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a needed reorganization and clarification of Chapter 32.

Assembly Action:

None

Final Hearing Results

F262-07/08

AS

Code Change No: F265-07/08

Original Proposal

Table 3301.8.1(3)

Proponent: Rick Thornberry, PE, The Code Consortium, representing American Pyrotechnics Association (APA)

Revise table footnotes as follows:

**TABLE 3301.8.1(3)
APPLICATION OF SEPARATION DISTANCE (Q-D) TABLES—DIVISION 1.4 EXPLOSIVES^{a,b,c,d}**

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm.

- a. The minimum separation distance (Do) shall be a minimum of 50 feet.
- b. Linear interpolation between tabular values in the referenced Q-D table shall not be allowed.
- c. For definitions of Quantity-Distance abbreviations IBD, ILD, IMD, IPD and PTR, see Section 3302.1.
- d. This table shall not apply to articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco, and Firearms regulations or unpacked articles used in process operations that do not propagate a detonation or deflagration between articles, or to consumer fireworks, 1.4G.

Reason: This is an editorial clarification to indicate to the users of this table that these articles and consumer fireworks, 1.4G are not regulated by the table since they are not treated as explosives in this chapter.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

**TABLE 3301.8.1(3)
APPLICATION OF SEPARATION DISTANCE (Q-D) TABLES—DIVISION 1.4 EXPLOSIVES^{a,b,c,d}**

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm.

- The minimum separation distance (Do) shall be a minimum of 50 feet.
- Linear interpolation between tabular values in the referenced Q-D table shall not be allowed.
- For definitions of Quantity-Distance abbreviations IBD, ILD, IMD, IPD and PTR, see Section 3302.1.
- This table shall not apply to ~~articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco, and Firearms regulations or unpacked articles used in process operations that do not propagate a detonation or deflagration between articles, or to consumer fireworks, 1.4G.~~

Committee Reason: The committee agreed that the proponent's reason statement substantiates the need for the change. The new table note is simply a reiteration of the fact that, by definition, consumer fireworks, 1.4G, are not regulated by the table. The definition is often overlooked in applying the provisions of the table and this will provide clarity for the code user. The modification corrects an error in the preparation of the original code change.

Assembly Action:

None

Final Hearing Results

F265-07/08

AM

Code Change No: F266-07/08

Original Proposal

Table 3304.3

Proponent: Rick Thornberry, PE, The Code Consortium, representing American Pyrotechnics Association (APA)

Revise table and footnotes as follows:

**TABLE 3304.3
STORAGE AMOUNTS AND MAGAZINE REQUIREMENTS FOR EXPLOSIVES, EXPLOSIVE MATERIALS AND
FIREWORKS, 1.3G MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA**

NEW UN/ DOTn DIVISION	OLD DOTn CLASS	AFT /OSHA CLASS	INDOOR ^A (pounds)				OUTDOOR (pounds)	MAGAZINE TYPE REQUIRED				
			Unprotected	Cabinet	Sprinklers	Sprinklers & Cabinet		1	2	3	4	5
1.1 ^b	A	High	0	0	1	2	1	X	X	X	--	---
1.2	A	High	0	0	1	2	1	X	X	X	--	---
1.2	B	Low	0	0	1	1	1	X	X	X	X	---
1.3	B	Low	0	0	5	10	1	X	X	X	X	---
1.4 ^e	B	Low	0	0	50	100	1	X	X	X	X	---
1.5	C	Low	0	0	1	2	1	X	X	X	X	---
1.5	Blasting Agent	Blasting Agent	0	0	1	2	1	X	X	X	X	X
1.6	N/A	N/A	0	0	1	2	1	X	X	X	X	X

For SI: 1 pound = 0.454 kg, 1 pound per gallon = 0.12 kg per liter, 1 ounce = 28.35 g.

- A factor of 10 pounds per gallon shall be used for converting pounds (solid) to gallons (liquid) in accordance with Section 2703.1.2.
- Black powder shall be stored in a Type 1, 2, 3 or 4 magazine as provided for in Section 3304.3.1.
- This table shall not apply to consumer fireworks, 1.4G.

Reason: This is an editorial clarification to address the confusion that sometimes arises regarding the application of this table. It is not intended to apply to consumer fireworks, 1.4G since they are not explosive materials by definition in this code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the new table note is simply a reiteration of the fact that, by definition, consumer fireworks, 1.4G, are not regulated by the table. The definition is often overlooked in applying the provisions of the table and this will provide clarity for the code user. This is also consistent with the action taken on code change F265-07/08.

Assembly Action:

None

Final Hearing Results

F266-07/08

AS

Code Change No: **F267-07/08**

Original Proposal

Table 3304.5.2(3)

Proponent: Rick Thornberry, PE, The Code Consortium, representing American Pyrotechnics Association (APA)

Revise table footnotes as follows:

**TABLE 3304.5.2(3)
TABLE OF DISTANCES (Q-D) FOR BUILDINGS CONTAINING EXPLOSIVES —DIVISION 1.4 c**

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

- a. A separation distance of 100 feet is required for buildings of other than Type I or Type II construction as defined in the *International Building Code*.
- b. For earth-covered magazines, no specified separation is required.
 - 1. Earth cover material used for magazines shall be relatively cohesive. Solid or wet clay and similar types of soil are too cohesive and shall not be used. Soil shall be free from unsanitary organic matter, trash, debris and stones heavier than 10 pounds or larger than 6 inches in diameter. Compaction and surface preparation shall be provided, as necessary, to maintain structural integrity and avoid erosion. Where cohesive material cannot be used, as in sandy soil, the earth cover over magazines shall be finished with a suitable material to ensure structural integrity.
 - 2. The earth fill or earth cover between earth-covered magazines shall be either solid or sloped, in accordance with the requirements of other construction features, but a minimum of 2 feet of earth cover shall be maintained over the top of each magazines. To reduce erosion and facilitate maintenance operations, the cover shall have a slope of 2 horizontal to 1 vertical.
- c. Restricted to articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco and Firearms regulations, or unpacked articles used in process operations that do not propagate a detonation or deflagration between articles. This table shall not apply to consumer fireworks, 1.4G.

Reason: This is an editorial clarification to clearly indicate that it was not the intent to apply this new table to consumer fireworks, 1.4G since they are not considered explosives by definition.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved for consistency with the action taken on code changes F265-07/08 and F266-07/08.

Assembly Action:

None

Final Hearing Results

F267-07/08

AS

Code Change No: **F268-07/08**

Original Proposal

Section: 3309 (New)

Proponent: Rick Thornberry, PE, The Code Consortium, representing American Pyrotechnics Association (APA)

Add new section as follows:

SECTION 3309
TEMPORARY STORAGE OF CONSUMER FIREWORKS

3309.1 General. Where the temporary storage of consumer fireworks, 1.4G is allowed by Section 3301.1.3, Exception 4, such storage shall comply with the applicable requirements in NFPA 1124.

Reason: Since the temporary storage of consumer fireworks, 1.4G occurs in almost every state in the US, it makes good sense to specify fire safety regulations for those situations. NFPA 2004-2007 contains fairly comprehensive requirements for such storage that have been developed through the NFPA consensus process.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Errata: Replace the reason statement as follows:

Reason: Since the temporary storage of consumer fireworks, 1.4G occurs in almost every state in the US, it makes good sense to specify fire safety regulations for those situations. NFPA 1124-2006 contains fairly comprehensive requirements for such storage that have been developed through the NFPA consensus process.

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide good guidance on the short-term pre-holiday storage of consumer fireworks.

Assembly Action:

None

Final Hearing Results

F268-07/08

AS

Code Change No: **F270-07/08**

Original Proposal

Sections: 3403.6.2, 3403.6.2.1, Chapter 45 (New)

Proponent: William Winslow, representing Washington State Association of Fire Marshals

1. Revise as follows:

3403.6.2 Design and fabrication and installation of piping systems and components. Piping systems and components shall be designed and fabricated and installed in accordance with the applicable standard listed in Table 3403.6.2 and Chapter 5 of NFPA 30, except as modified by this section.

**TABLE 3403.6.2
PIPING STANDARDS**

PIPING USE	STANDARD
Power piping	ASME B31.1
Process Piping	ASME B31.3
Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols	ASME B31.4
Building Services Piping	ASME B31.9

3403.6.2.1 Special Materials. Low-melting-point-materials (such as aluminum, copper, and brass), materials that soften on fire exposure (such as nonmetallic materials), and nonductile material (such as cast iron) shall be acceptable for use underground in accordance with ~~ASME B31.9~~ the applicable standard listed in Table 3403.6.2. When such materials are used outdoors in above-ground piping systems or within buildings, they shall be in accordance with ~~ASME B31.9~~ the applicable standard listed in Table 3403.6.2 and one of the following.

1. Suitably protected against fire exposure.
2. Located where leakage from failure would not unduly expose people or structures.
3. Located where leakage can be readily controlled by operation of accessible remotely located valves.

In all cases, nonmetallic piping shall be used in accordance with Section 5.3.6 of NFPA 30.

2. Add standards to Chapter 45 as follows:

ASME

B31.1-04 Power Piping

B31.4-06 Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols

Reason: This code change proposal is a clarification and a technical correction. NFPA 30, Chapter 5 references ASME B31, Code for Pressure Piping, not ASME B31.9, which covers Building Services Piping. In many cases, ASME B31.9 is not the correct standard for flammable liquid piping. As shown in the table, there are 4 standards within ASME B31, Code for Pressure Piping that could cover flammable and combustible liquid piping. The code user must select the correct standard based on the application.

From NFPA 30, Chapter 5: "The design, fabrication, assembly, test, and inspection of piping systems shall be suitable for the expected working pressures and structural stresses. Compliance with applicable sections of ASME B31, Code for Pressure Piping, and the provisions of this chapter shall be considered prima facie evidence of compliance with the foregoing provisions."

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that there are other standards that are available from other promulgators that may be applicable and because the proponent requested disapproval to revise the proposal.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

William Winslow, Winslow Partnership, representing Washington State Association of Fire Marshals requests Approval as Submitted.

Commenter's Reason: This code change proposal is a clarification and a technical correction. NFPA 30, Chapter 5 references ASME B31, Code for Pressure Piping, not ASME B31.9, which covers Building Services Piping. In many cases, ASME B31.9 is not the correct standard for flammable liquid piping. As shown in the table, there are 4 standards within ASME B31, Code for Pressure Piping that cover flammable and combustible liquid piping. The code user must select the correct standard based on the application.

From NFPA 30, Chapter 5: "The design, fabrication, assembly, test, and inspection of piping systems shall be suitable for the expected working pressures and structural stresses. Compliance with applicable sections of ASME B31, Code for Pressure Piping, and the provisions of this chapter shall be considered prima facie evidence of compliance with the foregoing provisions."

During the hearings in Palm Springs, there was opposition to this code change proposal, because the opponents felt there are other standards that could be used. I reviewed a few of the American Petroleum Institute recommended practices. For piping, all of them referenced ASME B31, the ASME Code for Pressure Piping. There is no conflict. This proposal should be approved as submitted for clarification and to correct the reference to ASME B31.9.

Final Hearing Results

F270-07/08

AS

Code Change No: **F271-07/08**

Original Proposal

Sections: 3404.2.3.2, 3404.2.7.3.3, 3404.2.7.5.2, 3404.2.7.5.8, 3404.2.9.4

Proponents: Lynne M. Kilpatrick, Seattle, WA Fire Department representing Washington State Association of Fire Marshals; Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

3404.2.3.2 Label or placard. Tanks more than 100 gallons (379 L) in capacity, which are permanently installed or mounted and used for the storage of Class I, II or III HHA liquids, shall bear a label and placard identifying the material therein. Placards shall be in accordance with NFPA 704.

Exceptions:

1. Tanks of 300-gallon (1136 L) capacity or less located on private property and used for heating and cooking fuels in single-family dwellings.
2. Tanks located underground.

3404.2.7.3.3 Vent pipe outlets. Vent pipe outlets for tanks storing Class I, II or IIIA liquids shall be located such that the vapors are released at a safe point outside of buildings and not less than 12 feet (3658 mm) above the adjacent ground level. Vapors shall be discharged upward or horizontally away from adjacent walls to assist in vapor dispersion. Vent outlets shall be located such that flammable vapors will not be trapped by eaves or other

obstructions and shall be at least 5 feet (1524 mm) from building openings or lot lines of properties that can be built upon. Vent outlets on atmospheric tanks storing Class IIIB liquids are allowed to discharge inside a building if the vent is a normally closed vent.

Exception: Vent pipe outlets on tanks storing Class IIIB liquid inside buildings and connected to fuel-burning equipment shall be located such that the vapors are released to a safe location outside of buildings.

3404.2.7.5.2 Filling, emptying and vapor recovery connections. Filling, emptying and vapor recovery connections to tanks containing Class I, II or IIIA liquids shall be located outside of buildings at a location free from sources of ignition and not less than 5 feet (1524 mm) away from building openings or lot lines of property that can be built on. Such openings shall be provided with a liquid-tight cap which shall be closed when not in use and properly identified.

Filling and emptying connections to indoor tanks containing Class III B liquids and connected to fuel-burning equipment shall be located at a grade-level location outside of buildings. Such openings shall be provided with a liquid-tight cap which shall be closed when not in use. A sign in accordance with Section 2703.6 that displays the following warning shall be permanently attached at the filling location:

TRANSFERRING FUEL OTHER THAN CLASS III B COMBUSTIBLE LIQUID TO THIS LOCATION TANK CONNECTION IS A VIOLATION OF THE FIRE CODE AND IS STRICTLY PROHIBITED

3404.2.7.5.8 Overfill prevention. An approved means or method in accordance with Section 3404.2.9.6.6 shall be provided to prevent the overfill of all Class I, II and IIIA liquid storage tanks. Storage tanks in refineries, bulk plants or terminals regulated by Sections 3406.4 or 3406.7 shall have overfill protection in accordance with API 2350.

Exception: Outside above-ground tanks with a capacity of 1320 gallons (5000 L) or less.

An approved means or method in accordance with Section 3404.2.9.6.6 shall be provided to prevent the overfilling of Class IIIB liquid storage tanks inside buildings connected to fuel-burning equipment.

3404.2.9.4 Aboveground tanks inside of buildings. Tanks storing Class I, II and IIIA liquids inside buildings shall be equipped with a device or other means to prevent overflow into the building including, but not limited to: a float valve; a preset meter on the fill line; a valve actuated by the weight of the tanks contents; a low head pump which is incapable of producing overflow; or a liquid-tight overflow pipe at least one pipe size larger than the fill pipe and discharging by gravity back to the outside source of liquid or to an approved location.

Tanks containing Class III-B liquids and connected to fuel-burning equipment shall be provided with a means to prevent overflow into buildings in accordance with Section 3404.2.7.5.8.

Reason: An increasing number of facilities are installing generators inside buildings that utilize B100/B99 biodiesel, a Class IIIB liquid, as the generator fuel. Currently the code has very few requirements for the installation of tanks storing Class IIIB liquids inside buildings and does not adequately address the potential hazards associated with this increasing trend. Under the current code, up to 13,200 gallons of Class IIIB liquids can be stored in an unsprinklered building in steel aboveground tanks that are unseparated from other areas. Furthermore, in sprinklered buildings an unlimited quantity of Class IIIB liquids can be stored in steel aboveground tanks that are unseparated from other areas of the building. Whether in a sprinklered or unsprinklered building,

1. The tanks are not required to be vented to the outside of the building,
2. They are not required to be filled from a remote fill location outside the building, and
3. They are not required to be equipped with any type of overfill prevention system.

The current lack of controls for Class IIIB liquid tanks inside buildings can lead to facilities loading an unprecedented amount of fuel inside structures.

One of the major concerns of a Class IIIB liquid tank installed under the current code is that if a facility discovers after installation that the fuel-burning equipment either isn't working as efficiently as desired with the Class IIIB fuel, or the fuel becomes unavailable or more costly than traditional diesel fuel, the facility may elect to switch to Class II diesel. This could easily occur unbeknownst to the jurisdiction. The result could be a significantly noncompliant tank system where the quantity of Class II fuel could far exceed the code allowance of 660 gallons. Quantities of Class II diesel fuel in excess of 660 gallons inside buildings in steel aboveground tanks would otherwise require providing a Group H occupancy or a protected aboveground tank.

This proposed code change adds prudent controls for Class IIIB liquid tanks inside buildings connected to fuel-burning equipment. The proposal intentionally only addresses tanks connected to fuel-burning equipment because it is not intended to subject all Class IIIB liquid tanks (i.e. waste oil tanks at motor vehicle repair facilities and indoor bulk motor oils in industrial buildings) to these new requirements. This proposed change would require that tanks connected to fuel-burning equipment intended for Class IIIB fuels be provided with:

1. Vents that terminate on the outside of the building,
2. A fill opening located on the outside of the building,
3. An approved overfill prevention system in accordance with Section 3404.2.9.6.6 that sounds a local alarm when the tank capacity hits 90% full and automatically stops the flow of fuel when the tank capacity reaches 95% full, and
4. A permanent label on the tank as well as permanent signage at the fill location prohibiting delivery of fuels other than Class IIIB fuels to that fill location.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Modified****Modify the proposal as follows:**

3404.2.7.3.3 Vent pipe outlets. Vent pipe outlets for tanks storing Class I, II or IIIA liquids shall be located such that the vapors are released at a safe point outside of buildings and not less than 12 feet (3658 mm) above the ~~adjacent~~ finished ground level. Vapors shall be discharged upward or horizontally away from adjacent walls to assist in vapor dispersion. Vent outlets shall be located such that flammable vapors will not be trapped by eaves or other obstructions and shall be at least 5 feet (1524 mm) from building openings or lot lines of properties that can be built upon. Vent outlets on atmospheric tanks storing Class IIIB liquids are allowed to discharge inside a building if the vent is a normally closed vent.

Exception: Vent pipe outlets on tanks storing Class IIIB liquid inside buildings and connected to fuel-burning equipment shall be located such that the vapors are released to a safe location outside of buildings.

3404.2.7.5.2 Filling, emptying and vapor recovery connections. Filling, emptying and vapor recovery connections to tanks containing Class I, II or IIIA liquids shall be located outside of buildings at a location free from sources of ignition and not less than 5 feet (1524 mm) away from building openings or lot lines of property that can be built on. Such openings shall be provided with a liquid-tight cap which shall be closed when not in use and properly identified.

Filling and emptying connections to indoor tanks containing Class III B liquids and connected to fuel-burning equipment shall be located at a ~~grade-~~ finished ground level location outside of buildings. Such openings shall be provided with a liquid-tight cap which shall be closed when not in use. A sign in accordance with Section 2703.6 that displays the following warning shall be permanently attached at the filling location:

TRANSFERRING FUEL OTHER THAN CLASS III B COMBUSTIBLE LIQUID TO THIS LOCATION TANK CONNECTION
IS A VIOLATION OF THE FIRE CODE AND IS STRICTLY PROHIBITED

3404.2.7.5.8 Overfill prevention. An approved means or method in accordance with Section 3404.2.9.6.6 shall be provided to prevent the overfill of all Class I, II and IIIA liquid storage tanks. Storage tanks in refineries, bulk plants or terminals regulated by Sections 3406.4 or 3406.7 shall have overfill protection in accordance with API 2350.

An approved means or method in accordance with Section 3404.2.9.6.6 shall be provided to prevent the overfilling of Class IIIB liquid storage tanks inside buildings connected to fuel-burning equipment.

Exception: Outside above-ground tanks with a capacity of 1320 gallons (5000 L) or less.

~~An approved means or method in accordance with Section 3404.2.9.6.6 shall be provided to prevent the overfilling of Class IIIB liquid storage tanks inside buildings connected to fuel-burning equipment.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee felt that the proposal provides reasonable controls to prevent the overfilling of tanks containing Class IIIB liquids supplying fuel burning equipment and as a safeguard against the impact of potential switch-loading to a more hazardous class of liquid fuel. The modification provides correlation with the terminology used in Chapter 5 of the IBC and clarifies the intent of the proposal that the exception should apply to the entire section, including the added text on Class IIIB liquids.

Assembly Action:**None**

Final Hearing Results

F271-07/08

AM

Code Change No: F273-07/08

Original Proposal

Section: 3404.2.7.5.2

Proponent: Steve M. Crothers, Fire Department, Seattle, WA, representing Washington State Association of Fire Marshals

Revise as follows:

3404.2.7.5.2 Filling, emptying and vapor recovery connections. Filling, emptying and vapor recovery connections to tanks containing Class I, II or IIIA liquids shall be located outside of buildings not more than 5 feet (1524 mm) above the adjacent ground level at a location free from sources of ignition and not less than 5 feet (1524 mm) away from building openings or lot lines of property that can be built on. Such openings shall be provided with a liquid-tight cap which shall be closed when not in use and properly identified.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: This proposed change specifies that the tank fill location is required to be at ground level. It may seem obvious that the tank fill opening is required to be at ground level where the fuel truck driver has direct access. However, numerous designs have been submitted that propose to hoist fuel delivery truck hose lines up the exterior of the building to rooftops and other building levels above the finished ground level. The designs actually meet the letter of the code as it is currently written and so this code change is needed to clarify the intent.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the connection location should be related to where the delivering vehicle is parked. It was also suggested that the provision might be better located in Section 3404.2.7.5.6.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Steve M. Crothers, City of Seattle Fire Department, representing Washington State Association of Fire Marshals, requests Approval as Modified by this public comment.

Modify proposal as follows:

3404.2.7.5.2 Filling, emptying and vapor recovery connections. Filling, emptying and vapor recovery connections to tanks containing Class I, II or IIIA liquids shall be located outside of buildings ~~not more than 5 feet (1524 mm) above the adjacent ground level~~ in accordance with Section 3404.2.7.5.6 at a location free from sources of ignition and not less than 5 feet (1524 mm) away from building openings or lot lines of property that can be built on. Such openings shall be provided with a liquid-tight cap which shall be closed when not in use and properly identified.

3404.2.7.5.6 Location of connections that are made or broken. Filling, withdrawal and vapor-recovery connections for Class I, II and IIIA liquids which are made and broken shall be located outside of buildings, not more than 5 feet above the finished ground level, in an approved location in close proximity to the parked delivery vehicle. ~~Such at a location shall be~~ away from sources of ignition and not less than 5 feet (1524 mm) away from building openings. Such connections shall be closed and liquid tight when not in use and shall be properly identified.

Commenter's Reason: The Committee's concerns have been addressed in this modified proposal. The intent of the original proposal was to specify that the hose connection on the building is required to be within 5 feet of the finished ground level. In response to the Committee's concerns the specific requirement has been relocated to Section 3404.2.7.5.6 with a pointer from Section 3404.2.7.5.2 to give more clarity to the reader. Also in response to the Committee's comment, the revised proposal now requires that the connection be located in an approved location near where the fuel delivery vehicle will be parked.

Final Hearing Results

F273-07/08

AMPC

Code Change No: F274-07/08

Original Proposal

Section: 3404.2.13.1.4

Proponent: Tom Langseth, Langseth Environmental Services, Inc., representing himself

Revise as follows:

3404.2.13.1.4 Tanks abandoned in place. Tanks abandoned in place shall be as follows:

1. Flammable and combustible liquids shall be removed from the tank and connected piping.
2. The suction, inlet, gauge, vapor return and vapor lines shall be disconnected.
3. The tank shall be filled completely with an approved inert solid material.

Exception: Residential heating oil tanks of 1,100 gallons (4164 L) or less, provided the fill line is permanently removed to a point below grade to prevent refilling of the tank.

4. Remaining underground piping shall be capped or plugged.
5. A record of tank size, location and date of abandonment shall be retained.
6. All exterior above-grade fill piping shall be permanently removed when tanks are abandoned or removed.

Reason: The IFC code (as stated in the introduction) is to "safeguard public health and safety." By allowing the majority of underground storage tanks in the country (home heating oil tanks) to be capped below grade without structural fill material creates a HUGE safety issue. These are steel tanks that will wear out. The majority of these tanks were installed in the 1950's and 1960's. The useful life of an unprotected single wall steel underground fuel tank is 35-40 years. Who becomes responsible when someone drives in or falls into one of these tanks when the steel finally corrodes? These tanks will wear out. This might not happen in your lifetime, but it will happen. This is not, in my opinion, safeguarding the public's health and safety. All underground tanks, abandoned in place, should be filled with an approved, inert solid material.

Cost Impact: The code change will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the tanks, as they deteriorate, can leave dangerous holes in the ground that can lead to injury or property damage.

Assembly Action:

None

Final Hearing Results

F274-07/08

AS

Code Change No: **F275-07/08**

Original Proposal

Section: 3404.2.15 (New)

Proponent: Steve M. Crothers, Fire Department, Seattle, WA, representing Washington State Association of Fire Marshals

Add new text as follows:

3404.2.15 Maintenance. Aboveground tanks, connected piping and ancillary equipment shall be maintained in a safe operating condition. Tanks shall be maintained in accordance with their listings. Damage to aboveground tanks, connected piping or ancillary equipment shall be repaired using materials having equal or greater strength and fire resistance or the equipment shall be replaced or taken out of service.

Reason: This proposal adds a new section in Chapter 34 addressing the general maintenance of flammable and combustible liquid tanks and associated equipment. Similar text appears in Chapter 27 (see Sec 2703.2.6) for general maintenance of equipment associated with hazardous materials. However, it is useful and appropriate to also have specific text to address the maintenance of flammable and combustible liquid tank systems available in Chapter 34.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it will provide needed tank and equipment maintenance requirements.

Assembly Action: None

Final Hearing Results

F275-07/08

AS

Code Change No: F276-07/08

Original Proposal

Table 3404.3.6.3(1) through Table 3404.3.6.3(8)

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing himself

1. Revise table footnotes as follows:

**TABLE 3404.3.6.3(1)
MAXIMUM STORAGE HEIGHT IN CONTROL AREA**

TYPE OF LIQUID	NONSPRINKLERED AREA (feet)	SPRINKLERED AREA ^a (feet)	SPRINKLERED ^a WITH IN-RACK PROTECTION ^{a,b} (feet)
----------------	-------------------------------	---	---

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm.

- a. In buildings required to be protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to non-metallic containers and portable tanks.
- a. b. In-rack protection shall be in accordance with Table 3404.3.6.3(5), 3404.3.6.3(6) or 3404.3.6.3(7).

**TABLE 3404.3.6.3(2)
STORAGE ARRANGEMENTS FOR PALLETIZED OR SOLID-PILE STORAGE
IN LIQUID STORAGE ROOMS AND WAREHOUSES**

CLASS	STORAGE LEVEL	MAXIMUM STORAGE HEIGHT			MAXIMUM QUANTITY PER PILE (gallons)		MAXIMUM QUANTITY PER ROOM ^a (gallons)	
		Drums	Containers ^b (feet)	Portable tanks ^b (feet)	Containers	Portable tanks	Containers	Portable tanks

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

- a. See Section 3404.3.8.1 for unlimited quantities in liquid storage warehouses.
- b. ~~Storage heights are allowed to be increased for Class IB, IC, II and III liquids in metal containers having a capacity of 5 gallons or less where an automatic AFFF water protection system is provided in accordance with Table 3404.3.7.5.1. In buildings required to be protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to non-metallic containers and portable tanks.~~

- c. These height limitations are allowed to be increased to 10 feet for containers having a capacity of 5 gallons or less.
- d. For palletized storage of unsaturated polyester resins (UPR) in relieving-style metal containers with 50 percent or less by weight Class IC or II liquid and no Class IA or IB liquid, height and pile quantity limits shall be permitted to be 10 feet and 15,000 gallons, respectively, provided that such storage is protected by sprinklers in accordance with NFPA 30 and that the UPR storage area is not located in the same containment area or drainage path for other Class I or II liquids

TABLE 3404.3.6.3(3)
STORAGE ARRANGEMENTS FOR RACK STORAGE IN
LIQUID STORAGE ROOMS AND WAREHOUSES

CLASS	TYPE RACK	STORAGE LEVEL	MAXIMUM STORAGE HEIGHT (feet) ^b	MAXIMUM QUANTITY PER ROOM ^a (gallons)
			Containers	Containers

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

- a. See Section 3404.3.8.1 for unlimited quantities in liquid storage warehouses.
- b. In buildings required to be protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to non-metallic containers and portable tanks.

2. Revise table headings as follows:

TABLE 3404.3.6.3(4)
AUTOMATIC SPRINKLER PROTECTION FOR SOLID-PILE AND PALLETIZED
STORAGE OF LIQUIDS IN METAL CONTAINERS AND PORTABLE TANKS^a

TABLE 3404.3.6.3(5)
AUTOMATIC SPRINKLER PROTECTION REQUIREMENTS FOR RACK STORAGE OF
LIQUIDS IN METAL CONTAINERS OF 5-GALLON CAPACITY OR LESS WITH OR WITHOUT
CARTONS ON CONVENTIONAL WOOD PALLETS^a

TABLE 3404.3.6.3(6)
AUTOMATIC SPRINKLER PROTECTION REQUIREMENTS FOR RACK STORAGE
OF LIQUIDS IN METAL CONTAINERS GREATER THAN 5-GALLON CAPACITY^a

TABLE 3404.3.6.3(7)
AUTOMATIC AFFF WATER PROTECTION REQUIREMENTS FOR RACK STORAGE OF LIQUIDS
IN METAL CONTAINERS GREATER THAN 5-GALLON CAPACITY^{a,b}

TABLE 3404.3.6.3(8)
AUTOMATIC SPRINKLER PROTECTION REQUIREMENTS FOR CLASS I LIQUID STORAGE IN METAL
CONTAINERS OF 1-GALLON CAPACITY OR LESS WITH UNCARTONED OR CASE-CUT SHELF DISPLAY
UP TO 6.5 FEET, AND PALLETIZED STORAGE ABOVE IN A DOUBLE-ROW RACK ARRAY^a

Reason: Item 1: The new footnote helps to ensure that storage heights will not exceed the capabilities of the level of sprinkler protection provided. The new note also clarifies that protection schemes demonstrated with metallic containers and portable tanks are not suitable for non-metallic containers and portable tanks, which present a much more significant fire challenge.

Without this clarification, which correlates with NFPA 30, height limits established by the tables place sprinklered buildings at risk of having the sprinkler system fail to control a fire because the protection scheme might not be properly matched with stored commodities.

Item 2: The provisions in these tables are based on fire tests or historic protection schemes that were based on protection of metal containers and portable tanks. The schemes are inadequate for protection of liquids in containers and portable tanks constructed of other materials, such as plastic. NFPA 30 includes a limited number of protection schemes for non-metal containers, and those schemes, which require far more protection than the IFC prescribes in these tables, can still be recognized by IFC 3404.3.7.5.1 and 3404.3.8.4. Storage configurations that do not have demonstrated or code-recognized protection schemes, such as putting plastic containers into an area protected for metallic containers, should not be permitted.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

**TABLE 3404.3.6.3(1)
MAXIMUM STORAGE HEIGHT IN CONTROL AREA**

TYPE OF LIQUID	NONSPRINKLERED AREA (feet)	SPRINKLERED AREA ^a (feet)	SPRINKLERED WITH IN-RACK PROTECTION ^{a, b} (feet)
----------------	-------------------------------	---	--

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm.

- a. In buildings ~~required to be~~ protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to non-metallic containers and portable tanks.
- b. In-rack protection shall be in accordance with Table 3404.3.6.3(5), 3404.3.6.3(6) or 3404.3.6.3(7).

**TABLE 3404.3.6.3(2)
STORAGE ARRANGEMENTS FOR PALLETIZED OR SOLID-PILE STORAGE
IN LIQUID STORAGE ROOMS AND WAREHOUSES**

CLASS	STORAGE LEVEL	MAXIMUM STORAGE HEIGHT			MAXIMUM QUANTITY PER PILE (gallons)		MAXIMUM QUANTITY PER ROOM ^a (gallons)	
		Drums	Containers ^b (feet)	Portable tanks ^b (feet)	Containers	Portable tanks	Containers	Portable tanks

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

- a. See Section 3404.3.8.1 for unlimited quantities in liquid storage warehouses.
- b. In buildings ~~required to be~~ protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to non-metallic containers and portable tanks.
- c. These height limitations are allowed to be increased to 10 feet for containers having a capacity of 5 gallons or less.
- d. For palletized storage of unsaturated polyester resins (UPR) in relieving-style metal containers with 50 percent or less by weight Class IC or II liquid and no Class IA or IB liquid, height and pile quantity limits shall be permitted to be 10 feet and 15,000 gallons, respectively, provided that such storage is protected by sprinklers in accordance with NFPA 30 and that the UPR storage area is not located in the same containment area or drainage path for other Class I or II liquids

**TABLE 3404.3.6.3(3)
STORAGE ARRANGEMENTS FOR RACK STORAGE IN
LIQUID STORAGE ROOMS AND WAREHOUSES**

CLASS	TYPE RACK	STORAGE LEVEL	MAXIMUM STORAGE HEIGHT (feet) ^b	MAXIMUM QUANTITY PER ROOM ^a (gallons)
			Containers	Containers

(Portions of table not shown remain unchanged)

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

- a. See Section 3404.3.8.1 for unlimited quantities in liquid storage warehouses.
- b. In buildings ~~required to be~~ protected by an automatic sprinkler system, the storage height for containers and portable tanks shall not exceed the maximum storage height permitted for the fire protection scheme set forth in NFPA 30 or the maximum storage height demonstrated in a full-scale fire test, whichever is greater. NFPA 30 criteria and fire test results for metallic containers and portable tanks shall not be applied to non-metallic containers and portable tanks.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will clarify the proper application of the tables to the types of containers that were the subject of the referenced full-scale tests. The modification reflects the committee's opinion that there is no reason to allow the jeopardizing of the protection afforded by non-required sprinkler systems.

Assembly Action:

None

Final Hearing Results

F276-07/08

AM

Code Change No: F277-07/08

Original Proposal

Section: 3405.2.4

Proponent: Marla Wilcox, Englewood Safety Services, representing Fire Marshal's Association of Colorado

Revise as follows:

3405.2.4 Class I, II and III liquids. Class I ~~liquids and~~ or Class II ~~liquids or~~ and Class III liquids that are heated up to or above their flash points, shall be transferred by one of the following methods:

Exception: Liquids in containers not exceeding a 5.3-gallon (20 L) capacity.

1. From safety cans complying with UL 30.
2. Through an approved closed piping system.
3. From containers or tanks by an approved pump taking suction through an opening in the top of the container or tank.
4. For Class IB, IC, II and III liquids, from containers or tanks by gravity through an approved self-closing or automatic-closing valve when the container or tank and dispensing operations are provided with spill control and secondary containment in accordance with Section 3403.4. Class IA liquids shall not be dispensed by gravity from tanks.
5. Approved engineered liquid transfer systems.

Reason: This revision request is for clarification of the text to eliminate interpretive difficulty and more clearly state that the liquid transfer requirements of this section are applicable to all Class I liquids, all Class II liquids and Class III liquids that are heated up to or above their flash points.

As this section currently reads, it is for Class I and Class II liquids, and Class III liquids if heated up to or above their flash points. If Sections 3405.2.2 and 3405.2.5 are for Class I liquids and II or III if heated up it makes sense that this section should be the same.

Cost Impact: The code change proposal will not increase the cost of construction; it will simply clarify the code.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The proposal was approved because the committee felt that it provides a useful clarification of the text on the subject of liquid transfer.

Assembly Action:**None**

Final Hearing Results

F277-07/08**AS**

Code Change No: F278-07/08

Original Proposal

Section: 3405.2.5

Proponent: Marla Wilcox, Englewood Safety Services, representing Fire Marshal's Association of Colorado

Revise as follows:

3405.2.5 Manual container filling operations for Class I liquids. ~~Class I liquids and or Class II or and Class III liquids that are heated up to or above their flash points,~~ shall not be transferred into containers unless the nozzle and containers are electrically interconnected. Acceptable methods of electrical interconnection include:

1. Metallic floor plates on which containers stand while filling, when such floor plates are electrically connected to the fill stem; or
2. Where the fill stem is bonded to the container during filling by means of a bond wire.

Reason: This revision request is an editorial clarification of the text to eliminate interpretive difficulty and more clearly state that the liquid filling operations in Section 3405.2.5 deal with more than Class I liquids, thus the reference to Class I liquids has been removed. The requirements of this section are applicable to all Class I liquids, those Class II and Class III liquids that are heated up to or above their flash points. A comma after "flash points" has also been added. Wording has been changed to correlate with Section 3405.2.4.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a useful clarification of the text and also for consistency with the action taken on code change F277-07/08.

Assembly Action:

None

Final Hearing Results

F278-07/08

AS

Code Change No: F279-07/08

Original Proposal

Section: 3405.5.1

Proponent: Patrick A. McLaughlin, McLaughlin & Associates, representing The Consumer Specialty Products Association

Revise as follows:

3405.5.1 (Supp) Corridor installations. Where wall-mounted dispensers containing alcohol-based hand rubs are installed in corridors, they shall be in accordance with all of the following:

1. Level 2 and Level 3 aerosols containers shall not be allowed in corridors.
2. The maximum capacity of each Class I or II liquids dispenser shall be 41 ounces and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (.51 kg).
3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L) of Class I or II liquids or 1135 ounces (32.2 kg) of Level 1 aerosols, or a combination of Class I or II liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gallons (37.85 L) or 1135 oz (32.2 kg) such that the sum of the ratios of the liquid and aerosol quantities divided by the allowable quantity of liquids and aerosols, respectively, shall not exceed one.
4. The minimum corridor width shall be 72 inches (1829 mm).
5. Projections into a corridor shall be in accordance with Section 1003.3.3.

Reason: We are proposing to add a simple method of calculating the maximum allowable quantity of combined liquids and aerosols. The formula is taken from IBC Section 508.3.3.2. For example, if 4 gallons of liquids and 500 ounces of aerosols were present, 4/10 plus 500/1135 is less than one and therefore below the maximum allowable quantity.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a useful clarification of the text and is being offered in response to committee discussion on this topic in the last cycle.

Assembly Action:

None

Final Hearing Results

F279-07/08

AS

Code Change No: **F281-07/08**

Original Proposal

Section: 3406.5.4.5

Proponent: Jon Napier, Fire Department, City of Kent, WA, representing Washington State Building Code Council

Revise as follows:

3406.5.4.5 Commercial, industrial, governmental or manufacturing. Dispensing of Class II and III motor vehicle fuel from tank vehicles into the fuel tanks of motor vehicles located at commercial, industrial, governmental or manufacturing establishments is allowed where permitted, provided such dispensing operations are conducted in accordance with the following:

1. Dispensing shall occur only at sites that have been issued a permit to conduct mobile fueling.
2. The owner of a mobile fueling operation shall provide to the jurisdiction a written response plan which demonstrates readiness to respond to a fuel spill and carry out appropriate mitigation measures, and describes the process to dispose properly of contaminated materials.
3. A detailed site plan shall be submitted with each application for a permit. The site plan shall indicate: all buildings, structures and appurtenances on site and their use or function; all uses adjacent to the property lines of the site; the locations of all storm drain openings, adjacent waterways or wetlands; information regarding slope, natural drainage, curbing, impounding and how a spill will be retained upon the site property; and the scale of the site plan.

Provisions shall be made to prevent liquids spilled during dispensing operations from flowing into buildings or off-site. Acceptable methods include, but shall not be limited to, grading driveways, raising doorsills or other approved means.

4. The fire code official is allowed to impose limits on the times and days during which mobile fueling operations may take place, and specific locations on a site where fueling is permitted.
5. Mobile fueling operations shall be conducted in areas not accessible to the public or shall be limited to times when the public is not present.
6. Mobile fueling shall not take place within 15 feet (4572 mm) of streets, alleys, public ways, buildings, property lines, ~~or~~ combustible storage or storm drains.

Exceptions:

1. The distance to storm drains shall not apply where an approved storm drain cover or an approved equivalent that will prevent any fuel from reaching the drain is in place prior to fueling or a fueling hose being placed within 15 feet of the drain. Where placement of a storm drain cover will cause the accumulation of excessive water or difficulty in conducting the fueling, such cover shall not be used and the fueling shall not take place within 15 feet of a drain.
2. The distance to storm drains shall not apply for drains that direct influent to approved oil interceptors.
7. The tank vehicle shall comply with the requirements of NFPA 385 and local, state and federal requirements. The tank vehicle's specific functions shall include that of supplying fuel to motor vehicle fuel tanks. The vehicle and all its equipment shall be maintained in good repair.
8. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the tank vehicle or the point of fueling shall be prominently posted on three sides of the vehicle including the back and both sides.
9. A portable fire extinguisher with a minimum rating of 40:BC shall be provided on the vehicle with signage clearly indicating its location.
10. The dispensing nozzles and hoses shall be of an approved and listed type.
11. The dispensing hose shall not be extended from the reel more than 100 feet (30 480 mm) in length.
12. Absorbent materials, nonwater-absorbent pads, a 10-foot-long (3048 mm) containment boom, an approved container with lid and a nonmetallic shovel shall be provided to mitigate a minimum 5-gallon (19 L) fuel spill.
13. Tank vehicles shall be equipped with a "fuel limit" switch such as a count-back switch, to limit the amount of a single fueling operation to a maximum of 500 gallons (1893 L) before resetting the limit switch.

Exception: Tank vehicles where the operator carries and can utilize a remote emergency shutoff device which, when activated, immediately causes flow of fuel from the tank vehicle to cease.

14. Persons responsible for dispensing operations shall be trained in the appropriate mitigating actions in the event of a fire, leak or spill. Training records shall be maintained by the dispensing company and shall be made available to the fire code official upon request.
15. Operators of tank vehicles used for mobile fueling operations shall have in their possession at all times an emergency communications device to notify the proper authorities in the event of an emergency.
16. The tank vehicle dispensing equipment shall be constantly attended and operated only by designated personnel who are trained to handle and dispense motor fuels.
17. ~~Prior to beginning dispensing operations, precautions shall be taken to ensure ignition sources are not present.~~ Fuel dispensing shall be prohibited within 25 feet of any source of ignition.
18. The engines of vehicles being fueled shall be shut off during dispensing operations.
19. Nighttime fueling operations shall only take place in adequately lighted areas.
20. The tank vehicle shall be positioned with respect to vehicles being fueled to prevent traffic from driving over the delivery hose.
21. During fueling operations, tank vehicle brakes shall be set, chock blocks shall be in place and warning lights shall be in operation.
22. Motor vehicle fuel tanks shall not be topped off.
23. The dispensing hose shall be properly placed on an approved reel or in an approved compartment prior to moving the tank vehicle.
24. The fire code official and other appropriate authorities shall be notified when a reportable spill or unauthorized discharge occurs.
25. Operators shall place a drip pan or an absorbent pillow, in good condition, under each fuel fill opening prior to and during dispensing operations. Drip pans shall be liquid-tight. The pan or absorbent pillow shall have a capacity of not less than 3 gallons. Spills retained in the drip pan or absorbent pillow need not be reported. Operators, when fueling, shall have on their person an absorbent pad capable of capturing diesel foam

overfills. Except during fueling, the nozzle shall face upward and an absorbent pad shall be kept under the nozzle to catch drips. Contaminated absorbent pads or pillows shall be disposed of regularly in accordance with local, state and federal requirements.

26. All persons and parties with an interest in the property such as property owners, lessors, real estate companies, property managers and operators of the property shall give written consent to allow the mobile fueling to be conducted on the property. Managers, lessees, renters and other persons shall not solely give permission. Each person or party shall indicate that they understand the risk of spills.

Reason: The intent of these changes and additions is to provide better control of possible fuel spills at construction sites and other locations where mobile fueling is done. Keeping fueling operations away from streets, alleys, property lines, drains, etc will help protect the public and adjacent landowners. Taking the precautions of using drip pans and absorbent pads for minor spills will aid keeping pollutants out of water systems. Requiring that all persons and parties with an interest in the property give their consent in writing will ensure that everyone is aware that a fueling operation will be taking place.

Cost Impact: There will be an increase to the cost of construction. Absorbent pads or pillows cost approximately 3 to 5 dollars a piece.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

3406.5.4.5 Commercial, industrial, governmental or manufacturing. Dispensing of Class II and III motor vehicle fuel from tank vehicles into the fuel tanks of motor vehicles located at commercial, industrial, governmental or manufacturing establishments is allowed where permitted, provided such dispensing operations are conducted in accordance with the following:

1. Dispensing shall occur only at sites that have been issued a permit to conduct mobile fueling.
2. The owner of a mobile fueling operation shall provide to the jurisdiction a written response plan which demonstrates readiness to respond to a fuel spill and carry out appropriate mitigation measures, and describes the process to dispose properly of contaminated materials.
3. A detailed site plan shall be submitted with each application for a permit. The site plan shall indicate: all buildings, structures and appurtenances on site and their use or function; all uses adjacent to the property lines of the site; the locations of all storm drain openings, adjacent waterways or wetlands; information regarding slope, natural drainage, curbing, impounding and how a spill will be retained upon the site property; and the scale of the site plan.
Provisions shall be made to prevent liquids spilled during dispensing operations from flowing into buildings or off-site. Acceptable methods include, but shall not be limited to, grading driveways, raising doorsills or other approved means.
4. The fire code official is allowed to impose limits on the times and days during which mobile fueling operations may take place, and specific locations on a site where fueling is permitted.
5. Mobile fueling operations shall be conducted in areas not accessible to the public or shall be limited to times when the public is not present.
6. Mobile fueling shall not take place within 15 feet (4572 mm) of ~~streets, alleys, public ways,~~ buildings, property lines, combustible storage or storm drains.

Exceptions:

1. The distance to storm drains shall not apply where an approved storm drain cover or an approved equivalent that will prevent any fuel from reaching the drain is in place prior to fueling or a fueling hose being placed within 15 feet of the drain. Where placement of a storm drain cover will cause the accumulation of excessive water or difficulty in conducting the fueling, such cover shall not be used and the fueling shall not take place within 15 feet of a drain.
2. The distance to storm drains shall not apply for drains that direct influent to approved oil interceptors.
7. The tank vehicle shall comply with the requirements of NFPA 385 and local, state and federal requirements. The tank vehicle's specific functions shall include that of supplying fuel to motor vehicle fuel tanks. The vehicle and all its equipment shall be maintained in good repair.
8. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the tank vehicle or the point of fueling shall be prominently posted on three sides of the vehicle including the back and both sides.
9. A portable fire extinguisher with a minimum rating of 40:BC shall be provided on the vehicle with signage clearly indicating its location.
10. The dispensing nozzles and hoses shall be of an approved and listed type.
11. The dispensing hose shall not be extended from the reel more than 100 feet (30 480 mm) in length.
12. Absorbent materials, nonwater-absorbent pads, a 10-foot-long (3048 mm) containment boom, an approved container with lid and a nonmetallic shovel shall be provided to mitigate a minimum 5-gallon (19 L) fuel spill.
13. Tank vehicles shall be equipped with a "fuel limit" switch such as a count-back switch, to limit the amount of a single fueling operation to a maximum of 500 gallons (1893 L) before resetting the limit switch.

Exception: Tank vehicles where the operator carries and can utilize a remote emergency shutoff device which, when activated, immediately causes flow of fuel from the tank vehicle to cease.

14. Persons responsible for dispensing operations shall be trained in the appropriate mitigating actions in the event of a fire, leak or spill. Training records shall be maintained by the dispensing company and shall be made available to the fire code official upon request.
15. Operators of tank vehicles used for mobile fueling operations shall have in their possession at all times an emergency communications device to notify the proper authorities in the event of an emergency.
16. The tank vehicle dispensing equipment shall be constantly attended and operated only by designated personnel who are trained to handle and dispense motor fuels.

17. Fuel dispensing shall be prohibited within 25 feet of any source of ignition.
18. The engines of vehicles being fueled shall be shut off during dispensing operations.
19. Nighttime fueling operations shall only take place in adequately lighted areas.
20. The tank vehicle shall be positioned with respect to vehicles being fueled to prevent traffic from driving over the delivery hose.
21. During fueling operations, tank vehicle brakes shall be set, chock blocks shall be in place and warning lights shall be in operation.
22. Motor vehicle fuel tanks shall not be topped off.
23. The dispensing hose shall be properly placed on an approved reel or in an approved compartment prior to moving the tank vehicle.
24. The fire code official and other appropriate authorities shall be notified when a reportable spill or unauthorized discharge occurs.
25. Operators shall place a drip pan or an absorbent pillow, ~~in good condition,~~ under each fuel fill opening prior to and during dispensing operations. Drip pans shall be liquid-tight. The pan or absorbent pillow shall have a capacity of not less than 3 gallons. Spills retained in the drip pan or absorbent pillow need not be reported. Operators, when fueling, shall have on their person an absorbent pad capable of capturing diesel foam overfills. Except during fueling, the nozzle shall face upward and an absorbent pad shall be kept under the nozzle to catch drips. Contaminated absorbent pads or pillows shall be disposed of regularly in accordance with local, state and federal requirements.
- ~~26. All persons and parties with an interest in the property such as property owners, lessors, real estate companies, property managers and operators of the property shall give written consent to allow the mobile fueling to be conducted on the property. Managers, lessees, renters and other persons shall not solely give permission. Each person or party shall indicate that they understand the risk of spills.~~

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change to provide reasonable safeguards for spill control in mobile dispensing situations. The modifications delete what the committee felt was redundant verbiage in Item #6, subjective language in Item #25 and a cumbersome and unenforceable provision, Item #26.

Assembly Action:

None

Final Hearing Results

F281-07/08

AM

Code Change No: F282-07/08

Original Proposal

Section: 3501.1

Proponent: Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

Revise as follows:

3501.1 (Supp) Scope. The storage and use of flammable gases shall be in accordance with this chapter. Compressed gases shall also comply with Chapter 30 and cryogenic fluids shall also comply with Chapter 32. Bulk hydrogen compressed gas systems and bulk liquefied hydrogen gas systems shall also comply with NFPA 55. Hydrogen motor fuel-dispensing stations and repair garages and their associated above ground hydrogen storage systems shall also be designed and constructed in accordance with Chapter 22.

Exceptions:

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied petroleum gases and natural gases regulated by Chapter 38.
3. Fuel-gas systems and appliances regulated under the *International Fuel Gas Code* other than gaseous hydrogen systems and appliances.
- ~~4. Hydrogen motor fuel-dispensing stations and repair garages and their associated above ground hydrogen storage systems designed and constructed in accordance with Chapter 22.~~
- ~~5- 4.~~ Pyrophoric gases in accordance with Chapter 41.

Reason: The Hydrogen Motor Fuel-Dispensing and Generation requirements found in Chapter 22 of the International Fire Code (IFC) requires compliance with Chapter 35 of the IFC at Sections 2209.1, 2209.3.2.3.3, 2209.3.2.4, and 2209.3.2.6. However, when you go to Chapter 35, Section 3501.1 Exception 4 effectively prevents the application of Chapter 35 and loops you back to Chapter 22.

By deleting Exception 4 accompanied by the addition of "Hydrogen motor fuel-dispensing stations and repair garages and their associated above ground hydrogen storage systems shall also be designed and constructed in accordance with Chapter 22." To the end of Section 3501.1, the more specific requirements of Chapter 22 (Section 2209) will apply along with any Chapter 35 requirements not addressed in Chapter 22.

There are no conflicts created with this modification, it is similar to the approach taken with flammable or combustible liquid motor fuels, and any potential conflicts are eliminated by application of Section 102.9, with Chapter 22 being the more specific language and Chapter 35 being the general language for this application of the code.

"102.9 Conflicting provisions. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable."

The *International Fuel Gas Code* (IFGC) requires compliance with *International Fire Code* (IFC) Chapter 35 in Sections 635.1, 701.1, 703.2, and 704.3. However, when the code official or the regulated community goes to IFC Chapter 35, Section 3501.1, Exception 3 effectively stops application of Chapter 35 and sends them back to the *International Fuel Gas Code*.

If you research the history of the addition of the gaseous hydrogen system requirements to the IFGC the proposal authors identified the exception in the IFC Chapter 35 and indicated they were not changing it because they did not want Chapter 35 to be applied to fuel gases other than gaseous hydrogen. This has caused confusion with code officials and the regulated community that have tried to apply the I-Codes in a comprehensive manner.

Adding the language, "**other than gaseous hydrogen systems and appliances**" to Exception 3 clarifies that Chapter 35 is to be applied to gaseous hydrogen systems that are regulated by the IFGC without extending application of Chapter 35 to other fuel gas systems and appliances regulated by the IFGC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it provides a needed resolution of conflict within the scoping text of Chapter 35.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Larry Fluor, Fluor, Inc., representing Compressed Gas Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

3501.1 (Supp) Scope. The storage and use of flammable gases shall be in accordance with this chapter. Compressed gases shall also comply with Chapter 30 and cryogenic fluids shall also comply with Chapter 32. Bulk hydrogen compressed gas systems and bulk liquefied hydrogen gas systems shall ~~also~~ comply with NFPA 55. Hydrogen motor fuel-dispensing stations and repair garages and their associated above ground hydrogen storage systems shall also be designed and constructed in accordance with Chapter 22.

Exceptions:

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied petroleum gases and natural gases regulated by Chapter 38.
3. Fuel-gas systems and appliances regulated under the *International Fuel Gas Code* other than gaseous hydrogen systems and appliances.
4. Pyrophoric gases in accordance with Chapter 41.

Commenter's Reason: The intent of Section 3501.1 is to refer the user to NFPA 55 for the requirements of bulk hydrogen systems whether liquid or gaseous. The NFPA standards for bulk hydrogen systems were first established in 1968 with NFPA 50A applying to gaseous hydrogen systems and NFPA 50B applying to liquefied hydrogen systems. It is appropriate that the direction to NFPA 55 be clarified and limited to bulk systems which have been defined in the 2007 Supplement to the IFC in Section 3502.1. This clarification will avoid having users misapply Table 3504.2.1 which was intended to be limited to non-bulk applications.

Approval of the modification as shown adds clarity to the code and gives the user direction for requirements when bulk hydrogen systems are involved.

Final Hearing Results

F282-07/08

AMPC

Code Change No: **F283-07/08**

Original Proposal

Sections: 3503.1.1, 4003.1.1.3

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing himself

Revise as follows:

3503.1.1 Special limitations for indoor storage and use. Flammable gases shall not be stored or used in Group A, B, E, I or R occupancies or in offices in Group B occupancies.

Exceptions:

1. Cylinders not exceeding a capacity of 250 cubic feet (7.08 m³) each at normal temperature and pressure (NTP) used for maintenance purposes, patient care or operation of equipment.
2. Food service operations in accordance with Section 3803.2.1.7.

4003.1.1.3 Oxidizing gases. Except for cylinders not exceeding a capacity of 250 cubic feet (7 m³) each used for maintenance purposes, patient care or operation of equipment, oxidizing gases shall not be stored or used in Group A, ~~B,~~ E, I, or R occupancies or in offices in Group B occupancies.

The aggregate quantities of gases used for maintenance purposes and operation of equipment shall not exceed the maximum allowable quantity per control area listed in Table 2703.1.1(1).

Medical gas systems and medical gas supply cylinders shall also be in accordance with Section 3006.

Reason: The revision corrects an error dating back to the UFC provisions that served as the source for the original IFC during the drafting process. Code Change F169-00, which was approved several years ago, fully documented the history of the UFC error and corrected the regulated occupancy classes to be consistent with the code's intent. However, text to limit application of this restriction to offices in Group B was overlooked in F169-00. Staff pointed out the oversight last year, and this proposal is submitted to correct the problem. The current text prevents small laboratories or other non-office uses classified as Group B from having MAQ amounts of flammable or oxidizing gases, which was never intended.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which provides needed clarification of the applicability of the section to only offices in Group B.

Assembly Action:

None

Final Hearing Results

F283-07/08

AS

Code Change No: F284-07/08

Original Proposal

Sections: 3503.1.1, 4003.1.1.3

Proponent: Larry Fluor, Fluor, Inc., representing Compressed Gas Association

Revise as follows:

3503.1.1 Special limitations for indoor storage and use. Flammable gases shall not be stored or used in Group A, B, E, I or R occupancies.

Exceptions:

1. Cylinders of nonliquefied compressed gases not exceeding a capacity of 250 cubic feet (7.08 m³) or liquefied gases not exceeding a capacity of 40 pounds (18 kg) each at normal temperature and pressure (NTP) used for maintenance purposes, patient care or operation of equipment.
2. Food service operations in accordance with Section 3803.2.1.7.

4003.1.1.3 Oxidizing gases. Except for cylinders of nonliquefied compressed gases not exceeding a capacity of 250 cubic feet (7 m³) or liquefied compressed gases not exceeding a capacity of 46 pounds (21 kg) each used for maintenance purposes, patient care or operation of equipment, oxidizing gases shall not be stored or used in Group A, B, E, I or R occupancies.

The aggregate quantities of gases used for maintenance purposes and operation of equipment shall not exceed the maximum allowable quantity per control area listed in Table 2703.1.1(1).

Medical gas systems and medical gas supply cylinders shall also be in accordance with Section 3006.

Reason: To correlate the code change with F169-06/07 changes to Tables 2701.1.1(1) as shown in the 2007 Supplement. In the above referenced code change a unit of measure for liquefied oxidizing and flammable gases was used as the basis for Tables 2701.1.1(1) and (3). For flammable gases the density of butane and for oxidizing gases the density of chlorine was used as an index. These indexes allow the establishment of units of measure in weight units for gases that otherwise may have been shown in terms of gallons or cubic feet. The proposed modifications to Section 3503.1.1 and 4003.1.1.3 have been made to acknowledge the fact that liquefied gases are packaged in terms of weight. The exception for cylinders containing a nominal 250 cubic feet was based on a conventional 9 by 52 inch cylinder of unspecified gas. Using an index system that provides a weight basis for liquefied gases maintains the intent while providing the user with a means to evaluate containers that are typically encountered in the field. The index system is consistent with that used to establish the MAQ tables for these two hazard classes.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which provides correlation with the action taken on code change F169-06/07 in the last cycle using a weight basis for liquefied gases and a volume basis for non-liquefied gases using the same indexing system used in F169-06/07.

Assembly Action:

None

Final Hearing Results

F284-07/08

AS

Code Change No: **F287-07/08**

Original Proposal

Section: 3504.2.1.1 (New)

Proponent: Larry Fluer, Fluer, Inc., representing Compressed Gas Association

Add new text as follows:

3504.2.1.1 Weather protection canopies. Where weather protection is provided for sheltering outdoor flammable gas storage or use areas, such areas shall be constructed in accordance with Section 2704.13 and the *International Building Code*. Outdoor storage or use of flammable compressed gases shall be located from a lot line, public street, public alley, public way in accordance with Table 3504.2.1 except that Footnote a of Table 3504.2.1 shall not apply to areas sheltered by weather protection.

Reason: Weather protection is employed as a means to protect small outdoor storage areas used for the storage of compressed gases from the elements including sun exposure in areas of extreme heat and snow in areas which are exposed to winter storms. The IBC establishes limitations on the construction of weather protection under the requirements of IBC Section 414.6.1. Such areas are limited to 1500 square feet. The IBC allows an increase in area by Section 506 including the use of sprinklers which are not otherwise required for flammable gas storage.

While the use of a fire barrier wall to shield storage in the open from exposures is recognized the use of a fire barrier in combination with an unprotected overhead structure may not be appropriate. Therefore, the tabular distances should be applied without modification.

A similar provision exists for flammable liquids in Section 3406.5.1.2 for bulk and transfer process operations where weather protection is specified along with minimum separation distances from buildings, lot lines, etc.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will clarify that the weather protection requirements do not include Note a to Table 3504.2.1.

Assembly Action:

None

Final Hearing Results

F287-07/08

AS

Code Change No: **F289-07/08**

Original Proposal

Sections: 3704.3.4, 3704.3.2.5, 3704.3.2.6, 3704.3.2.7

Proponent: John Anicello, Airgas, Inc.

Revise as follows:

3704.3.4 Outdoor use of cylinders, containers and portable tanks. Cylinders, containers and portable tanks in outdoor use shall be located in gas cabinets or exhausted enclosures and shall comply with Sections 3704.3.4.1 through 3704.3.4.3.

~~3704.3.2.5~~ **3704.3.4.1 Treatment systems.** The treatment system requirements set forth in Section 3704.2.2.7 shall apply to highly toxic or toxic gases located outdoors.

~~3704.3.2.6~~ **3704.3.4.2 Emergency power.** The requirements for emergency power set forth in Section 3704.2.2.8 shall apply to highly toxic or toxic gases located outdoors.

~~3704.3.2.7~~ **3704.3.4.3 Gas detection system.** The gas detection system requirements set forth in Section 3704.2.2.10 shall apply to highly toxic or toxic gases located outdoors.

Reason: The application of gas detection by the code in storage in outdoor environments for toxic and highly toxic gases is unintended and improper; as such gases in storage are not required to be located in gas cabinets or exhausted enclosures. Additionally, gas detection is ineffective in an outdoor environment. The way the code is currently published, it is believed to be a result of inadvertent placement of the cited provisions. By moving the cited provisions for treatment, gas detection and emergency power under 3704.3.4 Outdoor use of cylinders, containers and portable tanks puts the provisions in the proper location as they apply to use of toxic and highly toxic gases in gas cabinets or exhausted enclosures in an outdoor environment. This rationale is supported by the 2003 International Fire Code commentary on page 37-17.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that the relocation of these provisions is appropriate and will clarify the code.

Assembly Action:

None

Final Hearing Results

F289-07/08

AS

Code Change No: F290-07/08

Original Proposal

Sections: 4001.1, 4006

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

Revise as follows:

4001.1 (Supp) Scope. The storage and use of oxidizing materials shall be in accordance with this chapter and Chapter 27. Oxidizing gases shall also comply with Chapter 30. Oxidizing cryogenic fluids shall also comply with Chapter 32.

Exceptions:

1. Display and storage in Group M and storage in Group S occupancies complying with Section 2703.11.
2. Bulk oxygen systems at industrial and institutional consumer sites shall be in accordance with NFPA 55.
3. Liquid oxygen stored or used in home health care in Groups I-1, I-4 and R occupancies in accordance with Section 4006.

**SECTION 4006 (Supp)
LIQUID OXYGEN IN HOME HEALTH CARE**

4006.1 General. The storage and use of liquid oxygen (LOX) in home health care in Groups I-1, I-4 and R occupancies shall comply with Sections 4006.2 through 4006.3-76, as applicable or shall be stored and used in accordance with Chapter 27.

4006.2 Information and instructions to be provided. The ~~supplier~~ seller of liquid oxygen shall provide the user with the following information in written form that includes, but is not limited to, the following:

1. Manufacturer's instructions and labeling for safe storage and use ~~operation~~ of the containers ~~used and labeling.~~
2. Locating containers away from ignition sources, exits, electrical hazards and high temperature devices in accordance with Section 4006.3.3.
3. Restraint of containers to prevent falling in accordance with Section 4006.3.4.
4. Requirements for ~~transporting~~ handling containers in accordance with Section 4006.3.5.
5. Safeguards for refilling containers in accordance with Section 4006.3.6 ~~to be followed when containers are refilled.~~
6. Signage requirements in accordance with Section 4006.6.

4006.3 Liquid oxygen home care containers. ~~Liquid oxygen home care and ambulatory containers in Groups I-1, I-4, R-3 Residential Care/Assisted Living Facilities and R-4 occupancies shall be stored, used and filled in accordance with Sections 4006, 3203.1 and 3203.2. Containers of liquid oxygen in home health care shall be in accordance with Sections 4006.3.1 through 4006.3.6.~~

4006.3.1 Maximum individual container capacity. Liquid oxygen home care containers shall not exceed an individual capacity of 15.8 gal (60 liters) in Groups I-1, I-4, and R occupancies. Liquid oxygen ambulatory containers are allowed in Groups I-1, I-4, and R occupancies. Containers of liquid oxygen in home health care shall also be stored, used and filled in accordance with Sections 4006, 3203.1 and 3203.2.

~~4006.3.1~~ **4006.3.2 Manufacturer's instructions.** Containers shall be stored, used and operated in accordance with the manufacturer's instructions and labeling.

~~4006.3.2~~ **4006.3.3 Locating containers.** Containers shall not be located in areas:

1. Where they can be overturned due to operation of a door,
2. Where they are in the direct path of egress,
3. Subject to falling objects,
4. Where they may become part of an electrical circuit, or
5. Where open flames and high temperature devices can cause a hazard.

~~4006.3.3 No smoking.~~ Smoking shall be prohibited in rooms or areas where liquid oxygen is in use.

~~4006.3.4 Signs.~~ A sign stating "OXYGEN NO SMOKING" shall be posted in the room or area where the liquid oxygen home care container(s) is stored or used and liquid oxygen ambulatory containers are filled.

~~4006.3.5~~ **4006.3.4 Restraining containers.** Liquid oxygen home care containers shall be restrained while in storage or use to prevent falling caused by contact, vibration or seismic activity. Containers shall be restrained by one of the following methods:

1. Restraining containers to a fixed object with one or more restraints.
2. Restraining containers within a framework, stand or assembly designed to secure the container.
3. Restraining containers by locating a container against two points of contact like the walls of a corner of a room or a wall and a secure furnishing or object like a desk.

~~4006.3.6~~ **4006.3.5 Container movement handling.** Containers shall be ~~transported~~ handled by use of a cart or hand truck designed for such use.

Exceptions:

1. Liquid oxygen home care containers equipped with a roller base.
2. Liquid oxygen ambulatory containers are allowed to be hand carried.

~~4006.3.7~~ **4006.3.6 Filling of containers.** The filling of containers shall be in accordance with Sections ~~4006.3.7.1~~ 4006.3.6.1 through ~~4006.3.7.3~~ 4006.3.6.3.

~~4006.3.7.1~~ **4006.3.6.1 Filling location of home care containers.** Liquid oxygen home care containers and ambulatory containers shall be filled outdoors.

Exception: Liquid oxygen ambulatory containers are allowed to be filled indoors if the supply container is specifically designed for filling such containers and written instructions are provided by the container manufacturer.

4006.3.7.1.4 4006.3.6.2 Incompatible surfaces. A liquid oxygen compatible drip pan compatible with liquid oxygen shall be provided under home care container fill and vent connections during the filling process in order to protect against liquid oxygen spillage from coming into contact with combustible surfaces, including asphalt.

4006.3.7.2 Filling of ambulatory care containers. ~~The filling of liquid oxygen ambulatory containers is allowed indoors where the supply container is designed to fill them and written instructions are provided by the container manufacturer.~~

4006.3.7.3 4006.3.6.3 Open flames and high temperature devices. The use of open flames and high temperature devices shall be in accordance with Section 2703.7.2.

4006.4 Maximum aggregate quantity. The maximum aggregate quantity of liquid oxygen allowed in storage and in use in each dwelling unit shall be 31.6 gal (120 L).

Exceptions:

1. The maximum aggregate quantity of liquid oxygen allowed in Group I-4 occupancies shall be limited by the maximum allowable quantity set forth in Table 2703.1.1(1).
2. Where individual sleeping rooms are separated from the remainder of the dwelling unit by fire barriers and horizontal assemblies having a minimum fire-resistance rating of 1 hour in accordance with the International Building Code, the maximum aggregate quantity per dwelling unit can be increased to allow a maximum of 31.6 gal (120 L) of liquid oxygen per sleeping room.

4006.5 Smoking prohibited. Smoking shall be prohibited in rooms or areas where liquid oxygen is in use.

4006.6 Signs. Warning signs for occupancies using home health care liquid oxygen shall be in accordance with Sections 4006.6.1 and 4006.6.2.

4006.6.1 No smoking sign. A sign stating "OXYGEN--NO SMOKING" shall be posted in each room or area where liquid oxygen containers are stored, used or filled.

4006.6.2 Premises signage. Where required by the fire code official, each dwelling unit or sleeping unit shall have an approved sign indicating that the unit contains liquid oxygen home care containers.

4006.7 Fire department notification. Where required by the fire code official, the liquid oxygen seller shall notify the fire department of the locations of liquid oxygen home care containers.

Reason: Code change proposal F205-06/07 was accepted during the last code change cycle and is included in the 2007 Supplement. In reviewing this section with stakeholders including key industry representatives, the fire service, the fire fighter union and others, there are some changes that are still necessary to complete this subject. Included in this proposal are the consensus proposals from the discussions these groups held since the final action hearings for the 06/07 cycle.

It is not realistic to apply the MAQ/control area concept set forth in Chapter 27 to the widespread use and distribution of liquid oxygen in home health care occupancies. This proposal adds a third exception to clarify that liquid oxygen that is stored and used in home health care occupancies in accordance with Section 4006 is not required to also comply with Chapter 27 or Chapter 32 provisions. The concept in Section 4006 is to limit the individual container size and also limit the total number of containers allowed in an individual dwelling unit. Trying to further regulate the quantity in a building is not considered by either industry or the fire service to be a reasonable or enforceable regulatory approach.

This proposal accomplishes several important things:

1. It establishes a maximum capacity for individual containers of liquid oxygen (LOX) that can be stored and used in home health care occupancies. It is necessary to establish such a limit because there has been a trend to increase the size of the containers delivered to the user in some cases simply in order to avoid more frequently deliveries. If it is necessary to have individual containers larger than the limits established here, then the MAQ and control area concept set forth in Chapter 27 will apply.
2. It eliminates the direct reference to R-3 Residential Care and R-4 occupancies and more appropriately applies to all R occupancies, including single-family residences, hotels and apartments used for home health care.
3. It clarifies that it is the responsibility of the seller rather than the supplier of liquid oxygen to provide the user with important safety information as the supplier may not be the entity that has the direct contact with the user.

This change allows the fire code official to require signage for each dwelling unit or sleeping unit when the fire department deems it necessary to alert the fire fighters of the presence of LOX in a home. Using the term "when required by the fire code official" allows the fire department to require signage if that signage is part of their operational plans.

This change allows the fire code official to require the seller of LOX to notify the fire department if that fire department wants to track the locations of LOX within their jurisdiction. Some fire departments want to know where the LOX locations are so they can pre-plan those locations.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Other fire departments do not want this information due to the potentially large amount of information and do not have the resources to process that information. This proposal uses the term “when required by the fire code official” to give that option to both the fire departments that want to track the information and those who do not want to track it.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it reflects a consensus of concerned parties that responded to committee input in the last cycle and provides improved regulation of home oxygen use. Concern was expressed, however, that Sections 4006.6.2 and 4006.7 could be viewed as breach of privacy issues and could be in violation of HIPPA rules for patient medical confidentiality.

Assembly Action:

None

Final Hearing Results

F290-07/08

AS

Code Change No: F291-07/08

Original Proposal

Sections: 4002.1 (IBC 307.2)

Proponent: Patrick A. McLaughlin, McLaughlin & Associates, representing Arch Chemicals, Inc., and PPG Industries, Inc.

Revise definition as follows:

4002.1 (IBC 307.2) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

OXIDIZER. A material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials and, if heated or contaminated, can result in vigorous self-sustained decomposition ~~Examples of other oxidizing gases include bromine, chlorine and fluorine.~~

Class 4. An oxidizer that can undergo an explosive reaction due to contamination or exposure to thermal or physical shock and that causes a severe increase in the burning rate of combustible materials with which it comes into contact. In addition, the oxidizer ~~will enhance~~ causes a severe increase in the burning rate and can cause spontaneous ignition of combustibles.

Class 3. An oxidizer that ~~will~~ causes a severe increase in the burning rate of combustible materials with which it comes in contact ~~or that will undergo vigorous self-sustained decomposition caused by contamination or exposure to heat.~~

Class 2. An oxidizer that will cause a moderate increase in the burning rate ~~or that causes spontaneous ignition~~ of combustible materials with which it comes in contact.

Class 1. An oxidizer that does not moderately increase the burning rate of whose primary hazard is that it slightly increases the burning rate but which does not cause spontaneous ignition when it comes in contact with combustible materials.

Reason: This proposal updates the IFC (IBC) definition of oxidizer to be consistent with the current definition of an oxidizer. The definition of an oxidizer in the IFC (IBC) is based on the definition in the Uniform Fire Code which came from NFPA 430.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted**

Committee Reason: The proposal was approved because the committee felt that it provides an appropriate update to the definition oxidizer consistent with OSHA regulations and NFPA 40.

Assembly Action:**None**

Final Hearing Results

F291-07/08

AS

Code Change No: F292-07/08

Original Proposal

Sections: 4503.7 (New), 4504**Proponent:** Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee**1. Add new text as follows:**

4503.7 Slip Identification. Slips and mooring spaces shall be individually identified by an approved numeric or alphabetic designator. Space designators shall be posted at the space. Signs indicating the space designators located on finger piers and floats shall be posted at the base of all piers, finger piers, floats, and finger floats.

2. Revise as follows:

4504.1 (Supp) General. Piers, marinas and wharves with facilities for mooring or servicing five or more vessels, and marine motor fuel dispensing facilities shall be equipped with fire-protection equipment in accordance with Sections 4504.2 through ~~4504.5~~ 4504.6.

4504.2 (Supp) Standpipes. Marinas and boatyards shall be equipped throughout with Class I manual, dry standpipe systems in accordance with NFPA 303. Systems shall be provided with outlets located such that no point on the marina pier or float system exceeds 150 feet from a standpipe outlet.

4504.2.1 Identification of standpipe outlets. Standpipe outlet locations shall be clearly identified by a flag or other approved means designed to be readily visible from the pier accessing the float system.

4504.3 (Supp) Access and water supply. (No change to current text)

4504.4 (Supp) Portable fire extinguishers. (No change to current text)

4504.5 (Supp) Communications. (No change to current text)

4504.6 Emergency operations staging areas. Space shall be provided on all float systems for the staging of emergency equipment. Emergency operation staging areas shall provide a minimum of 4 feet wide by 10 feet long clear area exclusive of walkways and shall be located at each standpipe outlet. Emergency operation staging areas shall be provided with a curb or barrier having a minimum height of 4" and maximum space between the bottom edge and surface of the staging area of 2" on the outboard sides of the staging area.

An approved sign reading "Fire Equipment Staging Area – Keep Clear" shall be provided at each staging area.

Reason: The proposed amendments to the new Chapter 45 on Marinas include:

4503.7 - Improved communications and addressing within the marina float system to speed response by emergency personnel for all emergencies in the marina, including medical responses. These requirements are relatively low cost improvements that offer great potential for improving emergency responses.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

4504.2 - Revised standpipe requirements that will reduce the cost of installation and maintenance for the standpipe systems that have been required under the code for years, while providing improved functionality for firefighting purposes. As proposed, the requirement for a Class I dry manual standpipes will eliminate the cost to the marina owner of installation and annual testing and inspection of backflow valves and tenant hoses currently in use for typical marina systems;

4504.6 - Low cost requirements for equipment staging areas and standpipe outlet identification to speed fire response and protect valuable equipment.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because the committee felt that it would provide the fire department with improved operational features. Concern was expressed that a lower marina size limit is needed to avoid applying the provisions to small marinas, that there is no requirement that slip identification be visible from the land side and the proposal did not provide signage size criteria.

Assembly Action:

None

Final Hearing Results

F292-07/08

AS

Code Change No: F294-07/08

Original Proposal

Chapter 46 (New), Sections: 102.1, 202, 607.1, 701.1, 704.1, Table 704.1, 903.6.1, 905.11, 907.3 through 907.3.4.3, 1027, 2506.1

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing Joint Fire Service Review Committee

1. Add new chapter as follows:

CHAPTER 46
CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

SECTION 4601
GENERAL

4601.1 Scope. The provisions of this chapter shall apply to existing buildings constructed prior to the adoption of this code.

4601.2 Intent. The intent of this chapter is to provide a reasonable degree of fire and life safety to persons occupying existing buildings by providing for alterations to such existing buildings which do not comply with the minimum requirements of the *International Building Code*.

4601.3 Permits. Permits shall be required as set forth in Section 105.7 and the *International Building Code*.

4601.4 Owner notification. Where a building is found to be in non-compliance, the fire code official shall duly notify the owner of the building. Upon receipt of such notice, the owner shall, subject to the following time limits, take necessary actions to comply with the provisions of Chapter 46.

4601.4.1 Plans and specifications. Plans and specifications for the necessary alterations shall be completed within a time schedule approved by the fire code official.

4601.4.2 Completion of work. Work on the required alterations to the building shall be completed within a time schedule approved by the fire code official.

4601.4.3 Extension of time. The fire code official is authorized to grant necessary extensions of time when it can be shown that the specified time periods are not physically practical or pose an undue hardship. The granting of an extension of time for compliance shall be based on the showing of good cause and subject to the filing of an acceptable systematic plan of correction with the fire code official.

SECTION 4602 **DEFINITIONS**

4602.1 Definition. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

EXISTING. Buildings, facilities or conditions which are already in existence, constructed or officially authorized prior to the adoption of this code.

SECTION 4603 **FIRE SAFETY REQUIREMENTS FOR BUILDINGS**

4603.1 Required modifications. Means of egress in existing buildings shall comply with the requirements of Section 1027 and the building code that applied at the time of construction. Where these provisions conflict, the most restrictive provision shall apply.

For existing buildings that were not required to comply with a building code at the time of construction, such buildings shall comply with the requirements of Section 1027 and, in addition, shall have a life safety evaluation prepared, consistent with the requirements of Section 104.7.2. The life safety evaluation shall identify any changes to the means of egress that are necessary to provide safe egress to occupants and shall be subject to review and approval by the fire code official. The building shall be modified to comply with the recommendations set forth in the approved evaluation.

Exception: Group U Occupancies do not need to comply.

4603.2 Elevator operation. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3.

4603.3 Vertical openings. Interior vertical shafts, including but not limited to stairways, elevator hoistways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected as specified in Sections 4603.3.1 through 4603.3.7.

4603.3.1 Group I occupancies. In Group I occupancies, interior vertical openings connecting two stories or more shall be protected with 1- hour fire-resistance-rated construction.

4603.3.2 Three to five stories. In other than Group I occupancies, interior vertical openings, other than escalators, connecting three to five stories shall be protected by either 1-hour fire-resistance-rated construction or an automatic sprinkler system shall be installed throughout the building in accordance with Sections 903.3.1.1 or 903.3.1.2.

Exceptions:

1. Vertical opening protection is not required for Group R-3 occupancies.
2. Vertical opening protection is not required for open parking garages and ramps.

4603.3.3 More than five stories. In other than Group I occupancies, interior vertical openings, other than escalators, connecting more than five stories shall be protected by 1- hour fire-resistance-rated construction.

Exceptions:

1. Vertical opening protection is not required for Group R-3 occupancies.
2. Vertical opening protection is not required for open parking garages and ramps.

4603.3.4 Atriums and covered malls. In other than Group I occupancies, interior vertical openings in a covered mall building or a building with an atrium shall be protected by either 1- hour fire-resistance-rated construction or an automatic sprinkler system shall be installed throughout the building in accordance with Sections 903.3.1.1 or 903.3.1.2.

Exceptions:

1. Vertical opening protection is not required for Group R-3 occupancies.
2. Vertical opening protection is not required for open parking garages and ramps.

4603.3.5 Escalators in Group B and M occupancies. Escalators creating vertical openings connecting any number of stories shall be protected by either 1- hour fire-resistance-rated construction or an automatic fire sprinkler system in accordance with Section 903.3.1.1 installed throughout the building, with a draft curtain and closely spaced sprinklers around the escalator opening.

4603.3.6 Escalators connecting less than four stories. In other than Group B and M occupancies, escalators creating vertical openings connecting less than four stories shall be protected by either 1- hour fire-resistance-rated construction or an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2 shall be installed throughout the building, and a draft curtain with closely spaced sprinklers shall be installed around the escalator opening.

4603.3.7 Escalators connecting more than four stories. In other than Group B and M occupancies, escalators creating vertical openings connecting five or more stories shall be protected by 1- hour fire-resistance-rated construction.

4603.4 Sprinkler systems. An automatic sprinkler system shall be provided in all existing buildings where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds (45 kg). Vaults located within buildings for the storage of raw pyroxylin shall be protected with an approved automatic sprinkler system capable of discharging 1.66 gallons per minute per square foot (68 L/min/m²) over the area of the vault.

4603.5 Standpipes. Existing structures with occupied floors located more than 50 feet (15 240 mm) above or below the lowest level of fire department access shall be equipped with standpipes installed in accordance with Section 905. The standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. The fire code official is authorized to approve the installation of manual standpipe systems to achieve compliance with this section where the responding fire department is capable of providing the required hose flow at the highest standpipe outlet.

4603.6 Fire alarm systems. An approved manual, automatic or manual and automatic fire alarm system shall be installed in existing buildings and structures in accordance with Sections 4603.6.1 through 4603.6.7 and provide occupant notification in accordance with Section 907.6 unless other requirements are provided by other sections of this code.

Exception: Occupancies with an existing, previously approved fire alarm system.

4603.6.1 Group E. A fire alarm system shall be installed in existing Group E occupancies in accordance with Section 907.2.3.

Exceptions:

1. A manual fire alarm system is not required in a building with a maximum area of 1,000 square feet (93 m²) that contains a single classroom and is located no closer than 50 feet (15 240 mm) from another building.
2. A manual fire alarm system is not required in Group E with an occupant load less than 50.

4603.6.2 Group I-1. An automatic or manual fire alarm system shall be installed in existing Group I-1 residential care/assisted living facilities in accordance with Section 907.2.6.1.

Exceptions:

1. Manual fire alarm boxes in resident or patient sleeping areas shall not be required at exits if located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.5.2 are not exceeded.

2. Where each sleeping room has a means of egress door opening directly to an exterior egress balcony that leads directly to the exits in accordance with Section 1014.5, and the building is not more than three stories in height.

4603.6.3 Group I-2. An automatic or manual fire alarm system shall be installed in existing Group I-2 occupancies in accordance with Section 907.2.6.2.

Exception: Manual fire alarm boxes in resident or patient sleeping areas shall not be required at exits if located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.5.2 are not exceeded.

4603.6.4 Group I-3. An automatic or manual fire alarm system shall be installed in existing Group I-3 occupancies in accordance with Section 907.2.6.3.

4603.6.5 Group R-1. A fire alarm system and smoke alarms shall be installed in existing Group R-1 occupancies in accordance with Sections 4603.6.5.1 through 4603.6.5.2.

4603.6.5.1 Group R-1 hotels and motels. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels more than three stories or with more than 20 sleeping units.

Exception: Buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, exit court or yard.

4603.6.5.2 Group R-1 boarding and rooming houses. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 boarding and rooming houses.

Exception: Buildings that have single-station smoke alarms meeting or exceeding the requirements of Section 907.2.10.1 and where the fire alarm system includes at least one manual fire alarm box per floor arranged to initiate the alarm.

4603.6.6 Group R-2. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 dwelling units or sleeping units.

Exceptions:

1. Where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 0.75 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade.
2. A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1023.6, Exception 4.

4603.6.7 Group R-4. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-4 residential care/assisted living facilities.

Exceptions:

1. Where there are interconnected smoke alarms meeting the requirements of Section 907.2.10 and there is at least one manual fire alarm box per floor arranged to sound continuously the smoke alarms.
2. Other manually activated, continuously sounding alarms approved by the fire code official.

4603.7 Single- and multiple-station smoke alarms. Single- and multiple-station smoke alarms shall be installed in existing Group R occupancies in accordance with Sections 4603.7.1 through 4603.7.3.

4603.7.1 Where required. Existing Group R occupancies not already provided with single-station smoke alarms shall be provided with single-station smoke alarms. Installation shall be in accordance with Section 907.2.10, except as provided in Sections 4603.7.2 and 4603.7.3.

4603.7.2 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R-1, R-2, R-3 or R-4, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

Exceptions:

1. Interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind.
2. Smoke alarms in existing areas are not required to be interconnected where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for interconnection without the removal of interior finishes.

4603.7.3 Power source. In Group R occupancies, single-station smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery back-up shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are permitted to be solely battery operated: in existing buildings where no construction is taking place; in buildings that are not served from a commercial power source; and in existing areas of buildings undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for building wiring without the removal of interior finishes.

SECTION 4604
MEANS OF EGRESS FOR EXISTING BUILDINGS

4604.1 General. Means of egress in existing buildings shall comply with the minimum egress requirements when specified in Table 4604.1 as further enumerated in Sections 4604.2 through 4604.21, and the building code that applied at the time of construction. Where the provisions conflict, the most restrictive provision shall apply. Existing buildings that were not required to comply with a building code at the time of construction shall comply with the minimum egress requirements when specified in Table 4603.1 as further enumerated in Sections 4604.2 through 4604.21, and, in addition, shall have a life safety evaluation prepared, consistent with the requirements of Section 104.7.2. The life safety evaluation shall identify any changes to the means of egress that are necessary to provide safe egress to occupants and shall be subject to review and approval by the fire code official. The building shall be modified to comply with the recommendations set forth in the approved evaluation.

4604.2 Elevators, escalators and moving walks. Elevators, escalators and moving walks shall not be used as a component of a required means of egress.

Exceptions:

1. Elevators used as an accessible means of egress where allowed by Section 1007.4.
2. Previously approved escalators and moving walks in existing buildings.

4604.3 Exit sign illumination. Exit signs shall be internally or externally illuminated. The face of an exit sign illuminated from an external source, shall have an intensity of not less than 5 foot-candles (54 lux). Internally illuminated signs shall provide equivalent luminance and be listed for the purpose.

Exception: Approved self-luminous signs that provide evenly illuminated letters shall have a minimum luminance of 0.06 foot-lamberts (0.21 cd/m²).

4604.4 Power source. Where emergency illumination is required in Section 4604.5, exit signs shall be visible under emergency illumination conditions.

Exception: Approved signs that provide continuous illumination independent of external power sources are not required to be connected to an emergency electrical system.

4604.5 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.

Exception: Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.

2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below the level of exit discharge, or buildings with 1,000 or more total occupants.

3. Group E in interior stairs, corridors, windowless areas with student occupancy, shops and laboratories.

4. Group F having more than 100 occupants.

Exception: Buildings used only during daylight hours which are provided with windows for natural light in accordance with the *International Building Code*.

5. Group I.

6. Group M.

Exception: Buildings less than 3,000 square feet (279 m²) in gross sales area on one story only, excluding mezzanines.

7. Group R-1.

Exception: Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

Exception: Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

9. Group R-4.

Exception: Where each sleeping unit has direct access to the outside of the building at ground level. The emergency power system shall provide power for not less than 60 minutes and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.

4604.6 Guards. Guards complying with this section shall be provided at the open sides of means of egress that are more than 30 inches (762 mm) above the floor or grade below.

4604.6.1 Height of guards. Guards shall form a protective barrier not less than 42 inches (1067 mm) high.

Exceptions:

1. Existing guards on the open side of stairs shall be not less than 30 inches (760 mm) high.

2. Existing guards within dwelling units shall be not less than 36 inches (910 mm) high.

3. Existing guards in assembly seating areas.

4604.6.2 Opening limitations. Open guards shall have balusters or ornamental patterns such that a 6-inch diameter (152 mm) sphere cannot pass through any opening up to a height of 34 inches (864 mm).

Exceptions:

1 At elevated walking surfaces for access to, and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening.

2. In occupancies in Group I-3, F, H or S, the clear distance between intermediate rails measured at right angles to the rails shall not exceed 21 inches (533 mm).
3. Approved existing open guards.

4604.7 Size of doors. The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a clear width of not less than 28 inches (711 mm). Where this section requires a minimum clear width of 28 inches (711 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 28 inches (711 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in an occupancy in Group I-2 used for the movement of beds shall provide a clear width not less than 41.5 inches (1054 mm). The height of doors shall not be less than 80 inches (2032 mm).

Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in occupancies in Groups R-2 and R-3.
2. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.
3. Width of door leaves in revolving doors that comply with Section 1008.1.3.1 shall not be limited.
4. Door openings within a dwelling unit shall not be less than 78 inches (1981 mm) in height.
5. Exterior door openings in dwelling units, other than the required exit door, shall not be less than 76 inches (1930 mm) in height.
6. Exit access doors serving a room not larger than 70 square feet (6.5 m²) shall be not less than 24 inches (610 mm) in door width.

4604.8 Opening force for doors. The opening force for interior side-swinging doors without closers shall not exceed a 5-pound (22 N) force. For other side-swinging, sliding and folding doors, the door latch shall release when subjected to a force of not more than 15 pounds (66 N). The door shall be set in motion when subjected to a force not exceeding a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a force of not more than 50 pounds (222 N). Forces shall be applied to the latch side.

4604.9 Revolving doors. Revolving doors shall comply with the following:

1. A revolving door shall not be located within 10 feet (3048 mm) of the foot or top of stairs or escalators. A dispersal area shall be provided between the stairs or escalators and the revolving doors.
2. The revolutions per minute for a revolving door shall not exceed those shown in Table 4604.9.
3. Each revolving door shall have a conforming side-hinged swinging door in the same wall as the revolving door and within 10 feet (3048 mm).

Exceptions:

1. A revolving door is permitted to be used without an adjacent swinging door for street floor elevator lobbies provided a stairway, escalator or door from other parts of the building does not discharge through the lobby and the lobby does not have any occupancy or use other than as a means of travel between elevators and a street.
2. Existing revolving doors where the number of revolving doors does not exceed the number of swinging doors within 20 feet (6096 mm).

**TABLE 4604.9
REVOLVING DOOR SPEEDS**

<u>INSIDE DIAMETER</u>	<u>POWER-DRIVEN-TYPE SPEED CONTROL (RPM)</u>	<u>MANUAL-TYPE SPEED CONTROL (RPM)</u>
6' 6"	11	12
7' 0"	10	11
7' 6"	9	11
8' 0"	9	10
8' 6"	8	9
9' 0"	8	9
9' 6"	7	8
10' 0"	7	8

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

4604.9.1 Egress component. A revolving door used as a component of a means of egress shall comply with Section 4604.9 and all of the following conditions:

1. Revolving doors shall not be given credit for more than 50 percent of the required egress capacity.
2. Each revolving door shall be credited with not more than a 50-person capacity.
3. Revolving doors shall be capable of being collapsed when a force of not more than 130 pounds (578 N) is applied within 3 inches (76 mm) of the outer edge of a wing.

4604.10 Stair dimensions for existing stairs. Existing stairs in buildings shall be permitted to remain if the rise does not exceed 8.25 inches (210 mm) and the run is not less than 9 inches (229 mm). Existing stairs can be rebuilt.

Exception: Other stairs approved by the fire code official.

4604.10.1 Stair dimensions for replacement stairs. The replacement of an existing stairway in a structure shall not be required to comply with the new stairway requirements of Section 1009 where the existing space and construction will not allow a reduction in pitch or slope.

4604.11 Winders. Existing winders shall be allowed to remain in use if they have a minimum tread depth of 6 inches (152 mm) and a minimum tread depth of 9 inches (229 mm) at a point 12 inches (305 mm) from the narrowest edge.

4604.12 Circular stairways. Existing circular stairs shall be allowed to continue in use provided the minimum depth of tread is 10 inches (254 mm) and the smallest radius shall not be less than twice the width of the stairway.

4604.13 Stairway handrails. Stairways shall have handrails on at least one side. Handrails shall be located so that all portions of the stairway width required for egress capacity are within 44 inches (1118 mm) of a handrail.

Exception: Aisle stairs provided with a center handrail are not required to have additional handrails.

4604.13.1 Height. Handrail height, measured above stair tread nosings, shall be uniform, not less than 30 inches (762 mm) and not more than 42 inches (1067 mm).

4604.14 Slope of ramps. Ramp runs utilized as part of a means of egress shall have a running slope not steeper than one unit vertical in ten units horizontal (10-percent slope). The slope of other ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

4604.15 Width of ramps. Existing ramps are permitted to have a minimum width of 30 inches (762 mm) but not less than the width required for the number of occupants served as determined by Section 1005.1.

4604.16 Fire escape stairs. Fire escape stairs shall comply with Sections 4604.16.1 through 4604.16.7.

4604.16.1 Existing means of egress. Fire escape stairs shall be permitted in existing buildings but shall not constitute more than 50 percent of the required exit capacity.

4604.16.2 Protection of openings. Openings within 10 feet (3048 mm) of fire escape stairs shall be protected by fire door assemblies having a minimum $\frac{3}{4}$ -hour fire-resistance rating.

Exception: In buildings equipped throughout with an approved automatic sprinkler system, opening protection is not required.

4604.16.3 Dimensions. Fire escape stairs shall meet the minimum width, capacity, riser height and tread depth as specified in Section 4604.10.

4604.16.4 Access. Access to a fire escape from a corridor shall not be through an intervening room. Access to a fire escape stair shall be from a door or window meeting the criteria of Table 1005.1. Access to a fire escape stair shall be directly to a balcony, landing or platform. These shall be no higher than the floor or window sill level and no lower than 8 inches (203 mm) below the floor level or 18 inches (457 mm) below the window sill.

4604.16.5 Materials and strength. Components of fire escape stairs shall be constructed of noncombustible materials. Fire escape stairs and balconies shall support the dead load plus a live load of not less than 100 pounds per square foot (4.78 kN/m²). Fire escape stairs and balconies shall be provided with a top and intermediate handrail on each side. The fire code official is authorized to require testing or other satisfactory evidence that an existing fire escape stair meets the requirements of this section.

4604.16.6 Termination. The lowest balcony shall not be more than 18 feet (5486 mm) from the ground. Fire escape stairs shall extend to the ground or be provided with counterbalanced stairs reaching the ground.

Exception: For fire escape stairs serving 10 or fewer occupants, an approved fire escape ladder is allowed to serve as the termination for a fire escape stairs.

4604.16.7 Maintenance. Fire escapes shall be kept clear and unobstructed at all times and shall be maintained in good working order.

4604.17 Corridors. Corridors serving an occupant load greater than 30 and the openings therein shall provide an effective barrier to resist the movement of smoke. Transoms, louvers, doors and other openings shall be closed or be self-closing.

Exceptions:

1. Corridors in occupancies other than in Group H, which are equipped throughout with an approved automatic sprinkler system.
2. Patient room doors in corridors in occupancies in Group I-2 where smoke barriers are provided in accordance with the International Building Code.
3. Corridors in occupancies in Group E where each room utilized for instruction or assembly has at least one-half of the required means of egress doors opening directly to the exterior of the building at ground level.
4. Corridors that are in accordance with the *International Building Code*.

4604.17.1 Corridor openings. Openings in corridor walls shall comply with the requirements of the *International Building Code*.

Exceptions:

1. Where 20-minute fire door assemblies are required, solid wood doors at least 1.75 inches (44 mm) thick or insulated steel doors are allowed.
2. Openings protected with fixed wire glass set in steel frames.
3. Openings covered with 0.5-inch (12.7 mm) gypsum wallboard or 0.75-inch (19.1 mm) plywood on the room side.
4. Opening protection is not required when the building is equipped throughout with an approved automatic sprinkler system.

4604.17.2 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that dead ends do not exceed the limits specified in Table 4604.17.2.

Exception: A dead-end passageway or corridor shall not be limited in length where the length of the dead-end passageway or corridor is less than 2.5 times the least width of the dead-end passageway or corridor.

TABLE 4604.17.2
COMMON PATH, DEAD-END AND TRAVEL DISTANCE LIMITS (by occupancy)

<u>Occupancy</u>	<u>Common Path Limit</u>		<u>Dead-End Limit</u>		<u>Travel Distance Limit</u>	
	<u>Unsprinklered (feet)</u>	<u>Sprinklered (feet)</u>	<u>Unsprinklered (feet)</u>	<u>Sprinklered (feet)</u>	<u>Unsprinklered (feet)</u>	<u>Sprinklered (feet)</u>
<u>Group A</u>	<u>20/75^a</u>	<u>20/75^a</u>	<u>20^b</u>	<u>20^b</u>	<u>200</u>	<u>250</u>
<u>Group B</u>	<u>75</u>	<u>100</u>	<u>50</u>	<u>50</u>	<u>200</u>	<u>250</u>
<u>Group E</u>	<u>75</u>	<u>75</u>	<u>20</u>	<u>20</u>	<u>200</u>	<u>250</u>
<u>Group F-1, S-1^d</u>	<u>75</u>	<u>100</u>	<u>50</u>	<u>50</u>	<u>200</u>	<u>250</u>
<u>Group F-2, S-2^d</u>	<u>75</u>	<u>100</u>	<u>50</u>	<u>50</u>	<u>300</u>	<u>400</u>
<u>Group H-1</u>	<u>25</u>	<u>25</u>	<u>0</u>	<u>0</u>	<u>75</u>	<u>75</u>
<u>Group H-2</u>	<u>50</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>75</u>	<u>100</u>
<u>Group H-3</u>	<u>50</u>	<u>100</u>	<u>20</u>	<u>20</u>	<u>100</u>	<u>150</u>
<u>Group H-4</u>	<u>75</u>	<u>75</u>	<u>20</u>	<u>20</u>	<u>150</u>	<u>175</u>
<u>Group H-5</u>	<u>75</u>	<u>75</u>	<u>20</u>	<u>20</u>	<u>150</u>	<u>200</u>
<u>Group I-1</u>	<u>75</u>	<u>75</u>	<u>20</u>	<u>20</u>	<u>200</u>	<u>250</u>
<u>Group I-2 (Health Care)</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>150</u>	<u>200^c</u>
<u>Group I-3 (Detention and Correctional – Use Conditions II, III, IV, V)</u>	<u>100</u>	<u>100</u>	<u>NR</u>	<u>NR</u>	<u>150^c</u>	<u>200^c</u>
<u>Group I-4 (Day Care Centers)</u>	<u>NR</u>	<u>NR</u>	<u>20</u>	<u>20</u>	<u>200</u>	<u>250</u>
<u>Group M (Covered Mall)</u>	<u>75</u>	<u>100</u>	<u>50</u>	<u>50</u>	<u>200</u>	<u>400</u>
<u>Group M (Mercantile)</u>	<u>75</u>	<u>100</u>	<u>50</u>	<u>50</u>	<u>200</u>	<u>250</u>
<u>Group R-1 (Hotels)</u>	<u>75</u>	<u>75</u>	<u>50</u>	<u>50</u>	<u>200</u>	<u>250</u>
<u>Group R-2 (Apartments)</u>	<u>75</u>	<u>75</u>	<u>50</u>	<u>50</u>	<u>200</u>	<u>250</u>
<u>Group R-3 (One- and Two-Family)</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>
<u>Group R-4 (Residential Care/Assisted Living)</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>	<u>NR</u>
<u>Group U</u>	<u>75</u>	<u>75</u>	<u>20</u>	<u>20</u>	<u>200</u>	<u>250</u>

For SI: 1 foot = 304.8 mm.

- a. 20 feet for common path serving 50 or more persons; 75 feet for common path serving less than 50 persons.
- b. See Section 1025.9.5 for dead-end aisles in Group A occupancies.
- c. This dimension is for the total travel distance, assuming incremental portions have fully utilized their allowable maximums. For travel distance within the room, and from the room exit access door to the exit, see the appropriate occupancy chapter.
- d. See the *International Building Code* for special requirements on spacing of doors in aircraft hangars.

NR = No requirements.

4604.17.3 Exit access travel distance. Exits shall be located so that the maximum length of exit access travel, measured from the most remote point to an approved exit along the natural and unobstructed path of egress travel, does not exceed the distances given in Table 4604.17.2.

4604.17.4 Common path of egress travel. The common path of egress travel shall not exceed the distances given Table 4604.17.2.

4604.18 Stairway discharge identification. A stairway in an exit enclosure which continues below the level of exit discharge shall be arranged and marked to make the direction of egress to a public way readily identifiable.

Exception: Stairs that continue one-half story beyond the level of exit discharge need not be provided with barriers where the exit discharge is obvious.

4604.19 Exterior stairway protection. Exterior exit stairs shall be separated from the interior of the building as required in Section 1023.6. Openings shall be limited to those necessary for egress from normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for buildings that are two stories or less above grade where the level of exit discharge is the first story above grade.
2. Separation from the interior of the building is not required where the exterior stairway is served by an exterior balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the opening not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the interior of the building is not required for an exterior stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1020.1.
4. Separation from the interior of the building is not required for exterior stairways connected to open-ended corridors, provided that:
 - 4.1. The building, including corridors and stairs, is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 4.2. The open-ended corridors comply with Section 1017.
 - 4.3. The open-ended corridors are connected on each end to an exterior exit stairway complying with Section 1023.1.
 - 4.4. At any location in an open-ended corridor where a change of direction exceeding 45 degrees occurs, a clear opening of not less than 35 square feet (3 m²) or an exterior stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

4604.20 Minimum aisles width. The minimum clear width of aisles shall be:

1. Forty-two inches (1067 mm) for aisle stairs having seating on each side.

Exception: Thirty-six inches (914 mm) where the aisle serves less than 50 seats.

2. Thirty-six inches (914 mm) for stepped aisles having seating on only one side.

Exception: Thirty inches (760 mm) for catchment areas serving not more than 60 seats.

3. Twenty inches (508 mm) between a stepped aisle handrail or guard and seating when the aisle is subdivided by the handrail.
4. Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Exception: Thirty-six inches (914 mm) where the aisle serves less than 50 seats.

5. Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.

Exception: Thirty inches (760 mm) for catchment areas serving not more than 60 seats.

6. Twenty-three inches (584 mm) between a stepped stair handrail and seating where an aisle does not serve more than five rows on one side.

4604.21 Stairway floor number signs. Existing stairs shall be marked in accordance with Section 1020.1.6.

**TABLE 4603.1
OCCUPANCY AND USE REQUIREMENTS**

Section	Use			Occupancy Classification																		
	High Rise	Atrium and Covered Mall	Under ground Building	A	B	E	F	H-1	H-2	H-3	H-4	H-5	I-1	I-2	I-3	I-4	M	R-1	R-2	R-3	R-4	S
4603.2	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4603.3.1	X		X										X	X	X	X						
4603.3.2	X		X	X	X	X	X	X	X	X	X	X					X	X	X		X	X
4603.3.3	X		X	X	X	X	X	X	X	X	X	X					X	X	X		X	X
4603.3.4		X																				
4603.3.5					X												X					
4603.3.6				X		X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
4603.3.7				X		X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
4603.4				X		X	X	X	X	X	X						X					
4603.5	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
4603.6.1						X																
4603.6.2													X									
4603.6.3														X								
4603.6.4															X							
4603.6.5																		X				
4603.6.6																			X			
4603.6.7																					X	
4603.7																		X	X	X	X	
4604	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

**SECTION 4605
REQUIREMENTS FOR OUTDOOR OPERATIONS**

4605.1 Tire storage yards. Existing tire storage yards shall be provided with fire apparatus access roads in accordance with Sections 4605.1.1 and 4605.1.2.

4605.1.1 Access to piles. Access roadways shall be within 150 feet (45 720 mm) of any point in the storage yard where storage piles are located, at least 20 feet (6096 mm) from any storage pile.

4605.1.2 Location within piles. Fire apparatus access roads shall be located within all pile clearances identified in Sections 2505.4 and within all fire breaks required in Section 2505.5.

2. Revise as follows:

102.1 Construction and design provisions. The construction and design provisions of this code shall apply to:

1. Structures, facilities and conditions arising after the adoption of this code.
2. Existing structures, facilities and conditions not legally in existence at the time of adoption of this code.
3. Existing structures, facilities and conditions when ~~identified in specific sections of this code~~ required in Chapter 46.
4. Existing structures, facilities and conditions which, in the opinion of the fire code official, constitute a distinct hazard to life or property.

**SECTION 202
GENERAL DEFINITIONS**

EXISTING. ~~Buildings, facilities or conditions which are already in existence, constructed or officially authorized prior to the adoption of this code.~~ See Section 4602.1.

607.1 Required. Existing elevators with a travel distance of 25 feet (7620 mm) or more ~~above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3~~ shall comply with the requirements in Chapter 46. New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1.

701.1 Scope. The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction ~~and requirements for enclosing floor openings and shafts in existing buildings.~~ New construction shall comply with the *International Building Code*.

704.1 Enclosure. Interior vertical shafts, including but not limited to stairways, elevator hoistways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1 required in Chapter 46.

3. Delete Table 704.1 in its entirety without substitution as follows:

**TABLE 704.1
VERTICAL OPENING PROTECTION REQUIRED**

4. Revise as follows:

903.6.1 Pyroxylin plastics. All structures occupied for the manufacture or storage of articles of cellulose nitrate (pyroxylin) plastic shall be equipped with an approved automatic fire-extinguishing system when required in Chapter 46. ~~Vaults located within buildings for the storage of raw pyroxylin shall be protected with an approved automatic sprinkler system capable of discharging 1.66 gallons per minute per square foot (68 L/min/m²) over the area of the vault.~~

905.11 Existing buildings. Existing structures with occupied floors located more than 50 feet (15 240 mm) above or below the lowest level of fire department access shall be equipped with standpipes installed in accordance with Section 905 when required in Chapter 46. ~~The standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. The fire code official is authorized to approve the installation of manual standpipe systems to achieve compliance with this section where the responding fire department is capable of providing the required hose flow at the highest standpipe outlet.~~

907.3 (Supp) Where required –retroactive in existing buildings and structures. An approved manual, automatic or manual and automatic fire alarm system shall be installed in existing buildings and structures in accordance with Sections 907.3.1 through 907.3.1.8 and provide occupant notification in accordance with Section 907.6 unless other requirements are provided by other sections of this code where required in Chapter 46.

Exception: Occupancies with an existing, previously approved fire alarm system.

907.3.1 (Supp) Group E. A fire alarm system shall be installed in existing Group E occupancies in accordance with Section 907.2.3.

Exceptions:

1. A manual fire alarm system is not required in a building with a maximum area of 1,000 square foot (93 m²) that contains a single classroom and is located no closer than 50 feet (15 240 mm) from another building.
2. A manual fire alarm system is not required in Group E with an occupant load less than 50.

907.3.2 (Supp) Group I. A fire alarm system shall be installed in existing Group I occupancies in accordance with Sections 907.3.2.1 through 907.3.2.3.

Exception: Manual fire alarm boxes in resident or patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurses= control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.5.2 are not exceeded.

907.3.2.1 (Supp) Group I-1. An automatic or manual fire alarm system shall be installed in existing Group I-1 residential care/assisted living facilities in accordance with Section 907.2.6.1.

Exception: Where each sleeping room has a means of egress door opening directly to an exterior egress balcony that leads directly to the exits in accordance with Section 1014.5, and the building is not more than three stories in height.

907.3.2.2 (Supp) Group I-2. An automatic or manual fire alarm system shall be installed in existing Group I-2 occupancies in accordance with Section 907.2.6.2.

907.3.2.3 (Supp) Group I-3. An automatic or manual fire alarm system shall be installed in existing Group I-3 occupancies in accordance with Section 907.2.6.3.

907.3.3 (Supp) Group R. A fire alarm system and smoke alarms shall be installed in existing Group R occupancies in accordance with Sections 907.3.3.1 through 907.3.3.4.

907.3.3.1 (Supp) Group R-1 hotels and motels. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 hotels and motels more than three stories or with more than 20 sleeping units.

Exception: Buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, exit court or yard.

907.3.3.2 (Supp) Group R-1 boarding and rooming houses. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-1 boarding and rooming houses.

Exception: Buildings that have single station smoke alarms meeting or exceeding the requirements of Section 907.2.10.1 and where the fire alarm system includes at least one manual fire alarm box per floor arranged to initiate the alarm.

907.3.3.3 (Supp) Group R-2. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 dwelling units or sleeping units.

Exceptions:

1. Where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 0.75 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade.
2. A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.
3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1023.6, Exception 4.

907.3.3.4 (Supp) Group R-4. An automatic or manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in existing Group R-4 residential care/assisted living facilities.

Exceptions:

1. Where there are interconnected smoke alarms meeting the requirements of Section 907.2.10 and there is at least one manual fire alarm box per floor arranged to sound continuously the smoke alarms.
2. Other manually activated, continuously sounding alarms approved by the fire code official.

907.3.4 (Supp) Single and multiple station smoke alarms. Single and multiple station smoke alarms shall be installed in existing Group R occupancies in accordance with Sections 907.3.4.1 through 907.3.4.3.

907.3.4.1 (Supp) Where required. Existing Group R occupancies not already provided with single station smoke alarms shall be provided with single station smoke alarms. Installation shall be in accordance with Section 907.2.10, except as provided in Sections 907.3.4.2 and 907.3.4.3.

907.3.4.2 (Supp) Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit or sleeping unit in Group R-1, R-2, R-3 or R-4, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

Exceptions:

1. Interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind.

2. ~~Smoke alarms in existing areas are not required to be interconnected where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for interconnection without the removal of interior finishes.~~

907.3.4.3 (Supp) Power source. ~~In Group R occupancies, single-station smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery back-up shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.~~

Exception: ~~Smoke alarms are permitted to be solely battery operated: in existing buildings where no construction is taking place; in buildings that are not served from a commercial power source; and in existing areas of buildings undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for building wiring without the removal of interior finishes.~~

5. Delete entire section without substitution:

**SECTION 1027
MEANS OF EGRESS FOR EXISTING BUILDINGS**

6. Revise as follows:

2506.1 Required access. ~~New and existing~~ tire storage yards shall be provided with fire apparatus access roads in accordance with Section 503 and this section. Existing tire storage yards shall be provided with fire apparatus access roads where required in Chapter 46.

Reason: This proposal relocates current requirements in the IFC to a new Chapter 46. The requirements being relocated all apply to construction requirements that specifically apply to existing buildings to one chapter. This relocation will facilitate in application and enforcement. The intent is to clarify the requirements and provide a single location for retroactive provisions and provide a quick reference table (Table 4603.1) to determine if there may be any requirements that would be applicable as the inspector is conducting the inspection.

Each of the provisions within the current code that refer to retroactive requirements will now have a reference to Chapter 46. Chapter 46 will contain all of the construction requirements which are retroactive and applicable to existing facilities or operations.

Currently, there is confusion as to when a construction requirement can be applied to an existing building. It has been said that in every case you must declare a “distinct hazard”, however this is not correct. There are specific requirements that are already determined to be retroactive construction requirements because the voting membership has made the determination that they create a distinct hazard and placed the specific provisions in the code. Since the determination of a hazard is already accomplished it is not necessary for the code official to repeat the process. Therefore, all of the requirements in Chapter 46 will apply to existing buildings.

Section 102.1 #3 is revised to indicate that the retroactive construction provisions referred to by this section are located in Chapter 46. Thus clarifying which provisions in the are actually construction provisions that should be applied to an existing building. Only those provisions listed in Chapter 46 would apply to an existing facility. Therefore, all of the other construction items in the code apply to new construction. However, as is provided now in the IFC, the code official can still exercise judgement and declare a distinct hazard under Item #4 of Section 102.1 for other items or operations not addressed in Chapter 46.

All of the requirements relocated into Chapter 46 remain the same; the requirements have not been changed, except for Section 4604.1 for means of egress. The scope section has been clarified to indicate that existing buildings must still comply with the code under which the building was built and also the minimum egress requirements in Section 4604, whichever is more restrictive. In this fashion, a building will not be allowed to reduce the egress system protection or design from the original approval. Section 4604 is not as restrictive as new construction and allows for the continued use of existing buildings when the egress is at an acceptable standard, but yet not in complete compliance with the IBC.

A roadmap of the relocated sections is provided to assist in following the proposal:

Current Section	Proposed Section	Comment
102.1	102.1	Only revised for clarification to include reference to Chapter 46
202	4602.1	Relocated definition of EXISTING to Chapter 46
607.1	4603.2	No change in requirements
701.1	701.1	Only revision for clarification
704.1	4603.3 – 4603.3.7	Table is not used, but all of the requirements are contained in text in the subsections.
903.6.1	4603.4	No change in requirements
905.11	4603.5	No change in requirements
907.3 – 907.3.3.4	4603.6 – 4603.6.7	No change in requirements
907.3.4	4603.7.3	No change in requirements
1027	4604	All of the current requirements are relocated with a revision to Section 4604.1 for clarification on application.
2506.1	4605	No change in requirements

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: The final chapter number will be determined prior to the publication of the 2009 edition.

Public Hearing Results

Committee Action:**Approved as Modified****Modify the proposal as follows:**

4601.2 Intent. The intent of this chapter is to provide a reasonable minimum degree of fire and life safety to persons occupying existing buildings by providing for alterations to such existing buildings which do not comply with the minimum requirements of the *International Building Code*.

4601.3 Permits. Permits shall be required as set forth in Section 105.7 and the *International Building Code* and this code.

4601.4.1 Plans and specifications Construction documents. ~~Plans and specifications~~ Construction documents for the necessary alterations shall be completed within a time schedule approved by the fire code official.

4603.1 Required modifications. ~~Means of egress in existing buildings shall comply with the requirements of Section 1027 and the building code that applied at the time of construction. Where these provisions conflict, the most restrictive provision shall apply.~~

~~For existing buildings that were not required to comply with a building code at the time of construction, such buildings shall comply with the requirements of Section 1027 and, in addition, shall have a life safety evaluation prepared, consistent with the requirements of Section 104.7.2. The life safety evaluation shall identify any changes to the means of egress that are necessary to provide safe egress to occupants and shall be subject to review and approval by the fire code official. The building shall be modified to comply with the recommendations set forth in the approved evaluation. Existing buildings shall comply with not less than the minimum provisions specified in Table 4603.1 and as further enumerated in Sections 4603.2 through 4603.7.3.~~

The provisions of Chapter 46 shall not be construed to allow the elimination of fire-protection systems or a reduction in the level of fire safety provided in buildings constructed in conformance with previously adopted codes.

Exception: Group U Occupancies do not need to comply.

4603.3.6 Escalators connecting less than four or less stories. In other than Group B and M occupancies, escalators creating vertical openings connecting ~~less than~~ less than four stories or less shall be protected by either 1- hour fire-resistance-rated construction or an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2 shall be installed throughout the building, and a draft curtain with closely spaced sprinklers shall be installed around the escalator opening.

4604.5 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.

Exception: Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.

2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below the level of exit discharge, or buildings with 1,000 or more total occupants.
3. Group E in interior stairs, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.

Exception: Buildings used only during daylight hours which are provided with windows for natural light in accordance with the *International Building Code*.

5. Group I.
6. Group M.

Exception: Buildings less than 3,000 square feet (279 m²) in gross sales area on one story only, excluding mezzanines.

7. Group R-1.

Exception: Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

Exception: Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

9. Group R-4.

~~**Exception:** Where each sleeping unit has direct access to the outside of the building at ground level. The emergency power system shall provide power for not less than 60 minutes and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement substantiates the need for the change which represents a significant effort to consolidate all retroactive construction requirements into a single chapter for a more user-friendly enforcement tool. The committee acknowledged that additional work may be needed on the new chapter but felt that the scope of the work done on this proposal warrants its inclusion in the code at this time. The modifications reflect the fact that the IFC is a minimum code (Section 4601.2), "construction documents" rather than "plans and specifications" is the term used in the IFC (Section 4601.4.1) and the proposal is presented as containing no

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

new changes, only a reorganization, and the struck-out text in Section 4604.5, Item 9 could not be accounted for as being existing. The modification to Section 4603.1 corrects an editorial error in the preparation of the original code change which inadvertently duplicated Section 4604.1. The modification to Section 4603.3.6 corrects the inadvertent omission of 4 story buildings in the preparation of the proposal.

Assembly Action:

None

Analysis: The purpose of this proposal is to draw together in one chapter all of the current retroactive existing building construction requirements and affects not only the sections shown in this proposal but also any additional existing building construction requirements that may be approved in the current code development cycle. Those proposals, if approved, will be correlated with and placed into the new chapter.

Final Hearing Results

F294-07/08

AM

Code Change No: F295-07/08

Original Proposal

Chapter 43

Proponent: Standards writing organizations as listed below.

Revise standards as follows:

ASME

American Society of Mechanical Engineers
International Three Park Avenue
New York, NY 10016-5990

Standard reference number	Title
A17.3— 2005 2002	Safety Code for Existing Elevators and Escalators—with A17.3a-2000 Addenda
B16.18—2001 (Reaffirmed 2005)	Cast Copper Alloy Solder Joint Pressure Fittings
B16.22— 2001 (Reaffirmed 2005)	Wrought Copper and Copper Alloy Solder-joint Pressure Fittings—with B16.22a-1998 Addenda
B31.3— 2004 2002	Process Piping
B31.9— 2004 96	Building Services Piping Code for Pressure Piping
BPVC- 2004 2004	ASME Boiler and Pressure Vessel Code, 2001 Edition of (Sections I, II, IV, V & VI, VIII)

ASTM

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Standard reference number	Title
B 43— 98 93(2004)	Specification for Seamless Red Brass Pipe, Standard Sizes
D 86- 07a 05	Test Method for Distillation of Petroleum Products at Atmospheric Pressure
D 92— 05a 02b	Test Method for Flash and Fire Points by Cleveland Open Cup
D 93- 07 05a	Test Method for Flash Point by Pensky-Martens Closed Cup Tester
D 323— 06 99a	Test Method for Vapor Pressure of Petroleum Products (Reid Method)
E 1529— 06 00	Test Method for Determining Effects of Large Hydrocarbon Pool Fires on Structural Members and Assemblies
E 1537— 07 02a	Test Method for Fire Testing of Upholstered Furniture
E 1590— 07 02	Test Method for Fire Testing of Mattresses

CGA

Compressed Gas Association
4221 Walney Road
Chantilly, VA 20151-2923

Standard reference number	Title
ANSI/G-13 (2006)	Storage and Handling of Silane and Silane Mixtures (an American National Standard)
ANSI/P-18 (2006)	Standard for Bulk Inert Gas Systems (an American National Standard)
V-1-(2005)	Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Standard
reference
number

Title

10—07 02	Portable Fire Extinguishers
13—07 02	Installation of Sprinkler Systems
13D—07 02	Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes
13R—07 02	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
14—07 03	Installation of Standpipe and Hose Systems
15—07 04	Water Spray Fixed Systems for Fire Protection
16—07 03	Installation of Foam-water Sprinkler and Foam-water Spray Systems
20—07 03	Installation of Stationary Pumps for Fire Protection
24—07 02	Installation of Private Fire Service Mains and their Appurtenances
25—08 02	Inspection, Testing and Maintenance of Water-based Fire Protection Systems
30—08 03	Flammable and Combustible Liquids Code
30A—08 03	Code for Motor Fuel-dispensing Facilities and Repair Garages
30B—07 02	Manufacture and Storage of Aerosol Products
32—07 00	Dry Cleaning Plants
33—07 03	Spray Application Using Flammable or Combustible Materials
34—07 03	Dipping and Coating Processes Using Flammable or Combustible Liquids
40—07 04	Storage and Handling of Cellulose Nitrate Film
51—07 02	Design and Installation of Oxygen-fuel Gas Systems for Welding, Cutting and Allied Processes
58—08 04	Liquefied Petroleum Gas Code
59A—06 04	Production, Storage and Handling of Liquefied Natural Gas (LNG)
61—08 02	Prevention of Fires and Dust Explosions in Agricultural and Food Products Facilities
69—08 02	Explosion Prevention Systems
72—07 02	National Fire Alarm Code
86—07 03	Ovens and Furnaces
99—05 02	Health Care Facilities
160—06 04	Flame Effects Before an Audience
385—07 00	Tank Vehicles for Flammable and Combustible Liquids
407—07 04	Aircraft Fuel Servicing
655—07 04	Prevention of Sulfur Fires and Explosions
664—07 02	Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities
704—07 04	Identification of the Hazards of Materials for Emergency Response
1122—08 02	Model Rocketry
1125—07 04	Manufacture of Model Rocket and High Power Rocket Motors
1127—08 02	High Power Rocketry
2001—08 04	Clean Agent Fire Extinguishing Systems

UL

Underwriters Laboratories
333 Pfingsten Road
Northbrook, IL 60062

Standard
reference
number

Title

30—04 95	Metal Safety Cans <u>with Revisions through December 2004</u>
197—2003	Commercial Electric Cooking Appliances – with Revisions through March 2006
217-97 2006	Single and Multiple Station Smoke Alarms-with Revisions through August 2005 <u>May 2007</u>
268-4996 2006	Smoke Detectors for Fire Protective Alarm Signaling Systems— <u>with Revision through January 1999 October 2003</u>
300-05	Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking <u>Equipment Areas— with Revisions through December 199</u>
710B—04	Recirculating Systems <u>with Revisions through April 2006</u>
793—03	Standard for Automatically Operated Roof Vents for Smoke and Heat <u>with Revisions through April 2004</u>
864—03	Standard for Control Units and Accessories for Fire Alarm Systems — with Revisions through <u>March 2006 July 2005</u>
1275—2005	Flammable Liquid Storage Cabinets— <u>with Revisions through May 2006</u>
1313—93 98	Standard for Nonmetallic Safety Cans for Petroleum Products – <u>with Revisions through May 2003</u>
1316— 94	Glass Fiber Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-gasoline Mixtures—with Revisio <u>4996 May 2006</u>
1363-2007 96	Standard for Relocatable Power Taps— <u>with Revisions through February 2006</u>
2200— 98 04	Standard for Stationary Engine Generator Assemblies—with Revisions through July 2004
2208-2005 96	Solvent Distillation Units- <u>with Revisions through December 2006</u>
2245—2006 99	Below-Grade Vaults for Flammable Liquid Storage Tanks

Reason: The *CP 28 Code Development Policy*, Section 4.5* requires the updating of referenced standards to be accomplished administratively, and be processed as a Code Change Proposal. In May 2007, a letter was sent to each developer of standards that are referenced in the International Codes, asking them to provide the ICC with a list of their standards in order to update to the current edition. Above is the received list of the referenced standards that are under the maintenance responsibility of the International Fire Code Committee.

***4.5 Updating Standards:** The updating of standards referenced by the Codes shall be accomplished administratively by the appropriate code development committee in accordance with these full procedures except that multiple standards to be updated may be included in a single proposal.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal was approved because it provides for a needed administrative update to the IFC referenced standards list.

Assembly Action:

None

Final Hearing Results

F295-07/08

AS

Code Change No: **F303-07/08**

Original Proposal

Appendix E102.1.2, E103.1.3.1, E104 (New)

Proponent: Patrick A. McLaughlin, McLaughlin & Associates, representing The Semiconductor Industry Association

1. Revise appendix as follows:**E102.1.2 Compressed gases.** Examples include:

1. Flammable: acetylene, carbon monoxide, ethane, ethylene, hydrogen, methane. Ammonia will ignite and burn although its flammable range is too narrow for it to fit the definition of flammable gas.

For binary mixtures where the hazardous component is diluted with a non flammable gas, the mixture shall be categorized in accordance with CGA P-23.

2. Oxidizing: oxygen, ozone, oxides of nitrogen, chlorine and fluorine. Chlorine and fluorine do not contain oxygen but reaction with flammables is similar to that of oxygen.
3. Corrosive: ammonia, hydrogen chloride, fluorine.
4. Highly toxic: arsine, cyanogen, fluorine, germane, hydrogen cyanide, nitric oxide, phosphine, hydrogen selenide, stibine.
5. Toxic: chlorine, hydrogen fluoride, hydrogen sulfide, phosgene, silicon tetrafluoride.
6. Inert (chemically unreactive): argon, helium, krypton, neon, nitrogen, xenon.
7. Pyrophoric: diborane, dichloroborane, phosphine, silane.
8. Unstable (reactive): butadiene (unstabilized), ethylene oxide, vinyl chloride.

E103.1.3.1 Mixtures. Gases—toxic and highly toxic gases include those gases which have an LC_{50} of 2,000 parts per million (ppm) or less when rats are exposed for a period of 1 hour or less. To maintain consistency with the definitions for these materials, exposure data for periods other than 1 hour must be normalized to 1 hour. To classify mixtures of compressed gases that contain one or more toxic or highly toxic components, the LC_{50} of the mixture must be determined. Mixtures that contain only two components are binary mixtures. Those that contain more than two components are multi-component mixtures. When two or more hazardous substances (components) having an LC_{50} below 2,000 ppm are present in a mixture, their combined effect, rather than that of the individual substances (components), must be considered. In the absence of information to the contrary, the effects of the hazards present must be considered as additive. Exceptions to the above rule may be made when there is a good reason to believe that the principal effects of the different harmful substances (components) are not additive.

For binary mixtures where the hazardous component is diluted with a non toxic gas such as an inert gas, the LC_{50} of the mixture is estimated by use of the following formula: methodology contained in CGA P-20. The hazard zones specified in CGA P-20 are applicable for DOTn purposes and shall not be used for hazard classification.

(Delete equation in its entirety) (Equation E-1)

For multi-component mixtures where more than one component has a listed LC_{50} , the LC_{50} of the mixture is estimated by use of the following formula:

(Delete equation in its entirety) (Equation E-2)

where:

LC_{50m} = LC_{50} of the mixture in parts per million (ppm).

C_i = concentration of component (i) in decimal percent. The concentration of the individual components in a mixture of gases is to be expressed in terms of percent by volume.

LC_{50i} = LC_{50} of component (i). The LC_{50} of the component is based on a 1-hour exposure. LC_{50} data which are for other than 1-hour exposures shall be normalized to 1-hour by multiplying the LC_{50} for the time determined by the factor indicated in Table E103.1.3.1. The preferred mammalian species for LC_{50} data is the rat, as specified in the definitions of toxic and highly toxic in Chapter 2 of the *International Fire*

~~Code. If data for rats are unavailable, and in the absence of information to the contrary, data for other species may be utilized. The data shall be taken in the following order of preference: rat, mouse, rabbit, guinea pig, cat, dog, monkey.~~

~~i_n = component 1, component 2 and so on to the nth component.~~

Examples:

~~a. What is the LC_{50} of a mixture of 15 percent chlorine, 85 percent nitrogen?~~

~~The 1-hour (rat) LC_{50} of pure chlorine is 293 ppm.~~

~~$LC_{50m} = 1 / (0.15 / 293)$ or 1,953 ppm. Therefore, the mixture is toxic.~~

~~b. What is the LC_{50} of a mixture of 15 percent chlorine, 15 percent fluorine and 70 percent nitrogen? The 1-hour (rat) LC_{50} of chlorine is 293 ppm. The 1-hour (rat) LC_{50} of fluorine is 185 ppm.~~

~~$LC_{50m} = 1 / (0.15 / 293) + (0.15 / 85)$ or 755 ppm. Therefore the mixture is toxic.~~

~~c. Is the mixture of 1 percent phosphine in argon toxic or highly toxic? The 1-hour (rat) LC_{50} is 11 ppm.~~

~~$LC_{50m} = 1 / [0.01 / (11 \cdot 2)]$ or 2,200 ppm. Therefore the mixture is neither toxic nor highly toxic. Note that the 4-hour LC_{50} of 11 ppm was normalized to 1-hour by use of Section E103.1.3.1.~~

TABLE E103.1.3.1
NORMALIZATION FACTOR (Delete table in its entirety)

2. Add new section as follows:

SECTION E104
REFERENCED STANDARDS

Compressed Gas Association (CGA)

CGA P-20 (2003) – Standard for Classification of Toxic Mixtures
CGA P-23 (2003) – Standard for Categorizing Gas Mixtures Containing Flammable and Nonflammable Components.

Reason: This proposal updates the code and standardizes the methodologies for the determination of hazard classification of materials. There are two areas that have been standardized:

1. Method to define hazard class for binary mixtures of inerts with toxic gases
 2. Method to define hazard class for binary mixtures of inerts with flammable gases
- CGA Standards provide these common methodologies which are defined in Appendix E.

1. CGA P-20. This standard will bring consistency to the definition of toxic gas mixtures. The calculations for toxic gas mixtures which are proposed for deletion are included in CGA P-20 which is referenced. It is much easier to determine the proper hazard classification of toxic gas mixtures by using CGA P-20 than the extractions currently printed in this appendix.
2. CGA P-23. This standard will bring consistency to the definition of flammable gases in mixtures with inert gases which is common in industry.

The proposed change is also consistent with Chapter 5, NFPA 55, Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Potable and Stationary Containers, Cylinders, and Tanks.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A review of the standard proposed for inclusion in the code, CGA P-20 (2003) and CGA P-23 (2003), for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standards CGA P-20-2003 and CGA P-23-2003 indicated that, in the opinion of ICC Staff, the standards did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change, which will delete appendix text in favor of referenced standards for the classification of hazardous materials.

Assembly Action:

None

Final Hearing Results

F303-07/08

AS

Code Change No: **F304-07/08**

Original Proposal

Appendix I (New)

Proponent: Wayne R. Jewell, Chair, Hazard Abatement in Existing Buildings Committee

Add new appendix as follows:

APPENDIX I
FIRE PROTECTION SYSTEMS – UNSAFE CONDITIONS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

I101 UNSAFE CONDITIONS

I101.1 General. This appendix is intended to identify conditions that can occur when fire protection systems are not properly maintained or components have been damaged. This appendix is not intended to provide comprehensive inspection, testing and maintenance requirements, which are found in NFPA 10, 25 and 72. Rather, its intent is to identify problems that are readily observable during fire inspections.

I101.2 Unsafe conditions requiring component replacement. The following conditions shall be deemed unsafe and shall cause the related component(s) to be replaced to comply with the provisions of this code:

1. Sprinkler heads having any of the following conditions:
 - 1.1. Signs of leakage;
 - 1.2. Paint or other ornamentation that is not factory applied;
 - 1.3. Evidence of corrosion including, but not limited to, discoloration or rust;
 - 1.4. Deformation or damage of any part;
 - 1.5. Improper orientation of sprinkler head;
 - 1.6. Empty glass bulb;
 - 1.7. Sprinkler heads manufactured prior to 1920;
 - 1.8. Replacement sprinkler heads that do not match existing sprinkler heads in orifice size, K-factor temperature rating, coating or deflector type; or
 - 1.9. Sprinkler heads for the protection of cooking equipment that have not been replaced within one year.
2. Water pressure and air pressure gauges that have been installed for more than five years and have not been tested to within 3 percent accuracy.

I101.2 Unsafe conditions requiring component repair or replacement. The following conditions shall be deemed unsafe and shall cause the related component(s) to be repaired or replaced to comply with the provisions of this code:

1. Sprinkler and standpipe system piping and fittings having any of the following conditions:

- 1.1. Signs of leakage;
 - 1.2. Evidence of corrosion;
 - 1.3. Misalignment; or
 - 1.4. Mechanical damage.
2. Sprinkler piping support having any of the following conditions:
 - 2.1. Materials resting on or hung from sprinkler piping;
 - 2.2. Damaged or loose hangers or braces;
3. Class II and Class III standpipe systems having any of the following conditions:
 - 3.1. No hose or nozzle, where required;
 - 3.2. Hose threads incompatible with fire department hose threads;
 - 3.3. Hose connection cap missing;
 - 3.4. Mildew, cuts, abrasions, and deterioration evident;
 - 3.5. Coupling damaged;
 - 3.6. Gaskets missing or deteriorated; or
 - 3.7. Nozzle missing or obstructed.
4. Hose racks and cabinets having any of the following conditions:
 - 4.1. Difficult to operate or damaged;
 - 4.2. Hose improperly racked or rolled;
 - 4.3. Inability of rack to swing 90 degrees out of the cabinet;
 - 4.4. Cabinet locked, except as permitted by this code;
 - 4.5. Cabinet door will not fully open; or
 - 4.6. Door glazing cracked or broken;
5. Portable fire extinguishers having any of the following conditions:
 - 5.1. Broken seal or tamper indicator;
 - 5.2. Expired maintenance tag;
 - 5.3. Pressure gauge indicator in "red";
 - 5.4. Signs of leakage or corrosion;
 - 5.5. Mechanical damage, denting or abrasion of tank;
 - 5.6. Presence of repairs such as welding, soldering or brazing;
 - 5.7. Damaged threads; or
 - 5.8. Damaged hose assembly, couplings or swivel joints.
6. Fire alarm and detection control equipment, initiating devices and notification appliances having any of the following conditions:
 - 6.1. Corroded or leaking batteries or terminals;
 - 6.2. Smoke detectors having paint or other ornamentation that is not factory-applied;
 - 6.3. Mechanical damage to heat or smoke detectors; or
 - 6.4. Tripped fuses.
7. Fire department connections having any of the following conditions:
 - 7.1. Fire department connections are not visible or accessible from the fire apparatus access road;
 - 7.2. Couplings or swivels are damaged;
 - 7.3. Plugs and caps are missing or damaged;
 - 7.4. Gaskets are deteriorated;
 - 7.5. Check valve is leaking; or
 - 7.6. Identification signs are missing.
8. Fire pumps having any of the following conditions:
 - 8.1. Pump room temperature is less than 40 degrees F;

Exception: Pump room housing a diesel pump equipped with an engine heater.
 - 8.2. Ventilating louvers are not freely operable;
 - 8.3. Corroded or leaking system piping;
 - 8.4. Diesel fuel tank is less than two-thirds full; or
 - 8.5. Battery readings, lubrication oil or cooling water levels are abnormal.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The ICC Board approved the development of new code requirements in the I-Codes which address hazards, such as those from fire, as well as, the development of requirements relative to issues such as hazardous conditions due to structural issues. This would provide code requirements for all disciplines to be used by building owners to bring their existing building stock up to minimum standards and enforcing agencies when performing inspections of existing buildings. The Hazard Abatement of Existing Buildings Committee (HAEB) was formed to develop these requirements.

During this 07/08 cycle, the HAEB committee is proposing several unsafe conditions requirements for inclusion within the text of the existing International Codes, predominately the *International Property Maintenance Code* and the *International Fire Code*.

The purpose of this proposal is to afford the code official a list of conditions that are readily identifiable by the fire code official during the course of an inspection utilizing the *International Fire Code*. The specific conditions identified in this proposal are primarily derived from applicable NFPA standards, and represent conditions that are readily identifiable by the fire code official during the course of an inspection. All of the identified conditions pose a hazard to the proper operation of the respective systems. While these do not represent all of the conditions that pose a hazard or otherwise may impair the proper operation of fire protection systems and are currently enforceable by reference to the applicable standards, identification of conditions directly in the IFC will provide a more direct path for enforcement by the fire code official.

Conditions affecting sprinkler heads, and sprinkler and standpipe system piping and fittings are from Chapter 5 of NFPA 25. Conditions affecting Class II and Class III standpipe systems, hose racks and cabinets are from Chapter 6 of NFPA 25. Identified impairments of portable fire extinguishers are from Chapter 6 and 7 of NFPA 10. Conditions affecting fire alarm systems is primarily from Chapter 10 of NFPA 72. Impairments to fire department connections are from Chapter 12 of NFPA 25, and those related to fire pumps are from Chapter 8 of NFPA 25.

In the 06/07 cycle, the Code Committee noted that the information resembles a handbook or manual more than code text. The Code Committee further commented that the subject matter is important and may be better served in an appendix. In response, the HAEB committee is proposing to delete this proposal from code text and to insert it into a new appendix to the IFC.

During the 06/07 final action hearings, at which the committee's public comment to make the proposal an appendix was heard, there were two comments in opposition.

One commenter noted that the relevant NFPA standards were essential to the inspection; thus, providing a list of items does not provide adequate information for the inspector. The committee has noted that NFPA 10 and NFPA 25 are necessary documents; however, the purpose of this proposal is to make both the building owner and the fire inspector aware of the scope of deficiencies that have the strong potential to cause a fire protection system or component to become inoperative.

The second commenter stated that some of the items listed, such as signs of leakage and evidence of corrosion, do not constitute unsafe conditions. The unsafe condition is that the fire protection system or component may not operate as intended if damage or deterioration is not addressed by repair or replacement. Evidence of leakage in one location may not in itself cause the system to become inoperable, but it may indicate installation or maintenance deficiencies that will do so over time.

While the lists are derived from the applicable NFPA standards, they were not intended to be comprehensive. The true purpose is to serve as a visual reference guide for fire inspectors during their routine visits to buildings. As a checklist, it will serve an important function in assuring that visible indications of system deficiencies are noted.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

APPENDIX I FIRE PROTECTION SYSTEMS – UNSAFE NONCOMPLIANT CONDITIONS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

I101 UNSAFE NONCOMPLIANT CONDITIONS

I101.2 Unsafe Noncompliant conditions requiring component replacement. The following ~~conditions~~ shall be deemed unsafe noncompliant conditions and shall cause the related component(s) to be replaced to comply with the provisions of this code:

I101.3 Unsafe I101.3 Noncompliant conditions requiring component repair or replacement. The following ~~conditions~~ shall be deemed unsafe noncompliant conditions and shall cause the related component(s) to be repaired or replaced to comply with the provisions of this code:

8. Fire pumps having any of the following conditions:
 - 8.1. Pump room temperature is less than 40 degrees F;

~~**Exception:** Pump room housing a diesel pump equipped with an engine heater.~~

- 8.2. Ventilating louvers are not freely operable;
- 8.3. Corroded or leaking system piping;
- 8.4. Diesel fuel tank is less than two-thirds full; or
- 8.5. Battery readings, lubrication oil or cooling water levels are abnormal.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the HAEB Committee's reason statement accurately and adequately substantiates the need for the change and that it addresses the concern expressed in the 2006-2007 cycle by the IFC committee that the provisions should be in an appendix and in public testimony that references to appropriate NFPA standards should be included. The modifications revise the term "unsafe" to "noncompliant" wherever it occurred based on the committee's feeling that "noncompliant" with the code better reflects the nature of the enumerated items; correct a section numbering error; revise the charging text syntax to flow better and delete an inappropriate exception which could expose diesel pump rooms to freezing.

Assembly Action:

None

Final Hearing Results

F304-07/08

AM

2006 INTERNATIONAL FIRE CODE DOCUMENTATION

IBC - FIRE SAFETY

Code Change No: **FS20-07/08**

Original Proposal

Sections: 704.8.6, 711.3.3, 711.4, 721.5.2.3, 410.4, 414.2.4, 509.5, 509.6, 805.1.1, 805.1.2, 909.20.2; IFC 2703.8.3.4

Proponent: Philip Brazil, Reid Middleton, Inc., representing himself

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL, THE IBC FIRE SAFETY AND THE IFC CODE DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES

PART I – IBC GENERAL

Revise as follows:

410.4 Platform construction. Permanent platforms shall be constructed of materials as required for the type of construction of the building in which the permanent platform is located. Permanent platforms are permitted to be constructed of fire-retardant-treated wood for Type I, II, and IV construction where the platforms are not more than 30 inches (762 mm) above the main floor, and not more than one-third of the room floor area and not more than 3,000 square feet (279m²) in area. Where the space beneath the permanent platform is used for storage or any other purpose other than equipment, wiring or plumbing, the floor ~~construction~~ assembly shall not be less than 1-hour fire-resistance-rated construction. Where the space beneath the permanent platform is used only for equipment, wiring or plumbing, the underside of the permanent platform need not be protected.

414.2.4 Fire-resistance-rating requirements. The required fire-resistance rating for fire barriers shall be in accordance with Table 414.2.2. The floor ~~construction~~ assembly of the control area and the construction supporting the floor of the control area shall have a minimum 2-hour fire-resistance rating.

Exception: The floor ~~construction~~ assembly of the control area and the construction supporting the floor of the control area are allowed to be 1-hour fire-resistance rated in buildings of Type IIA, IIIA and VA construction, provided that both of the following conditions exist:

1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, and
2. The building is three stories or less above grade plane.

509.5 Group R-1 and R-2 buildings of Type IIIA construction. The height limitation for buildings of Type IIIA construction in Groups R-1 and R-2 shall be increased to six stories and 75 feet (22 860 mm) where the first-floor ~~construction~~ assembly above the basement has a fire-resistance rating of not less than 3 hours and the floor area is subdivided by 2-hour fire-resistance-rated fire walls into areas of not more than 3,000 square feet (279 m²).

509.6 Group R-1 and R-2 buildings of Type IIA construction. The height limitation for buildings of Type IIA construction in Groups R-1 and R-2 shall be increased to nine stories and 100 feet (30 480 mm) where the building is separated by not less than 50 feet (15 240 mm) from any other building on the lot and from lot lines, the exits are segregated in an area enclosed by a 2-hour fire-resistance-rated fire wall and the first-floor ~~construction~~ assembly has a fire-resistance rating of not less than 1½ hours.

PART II – IBC FIRE SAFETY

Revise as follows:

704.8.6 (Supp) Vertical exposure. For buildings on the same lot, opening protectives having a fire protection rating of not less than ¾ hour shall be provided in every opening that is less than 15 feet (4572 mm) vertically above the roof of an adjacent building or structure based on assuming an imaginary line between them. The opening protectives are required where the fire separation distance between the imaginary line and the adjacent building or structure is less than 15 feet (4572 mm).

Exceptions:

1. Opening protectives are not required where the roof ~~construction~~ assembly of the adjacent building or structure has a fire-resistance rating of not less than 1 hour for a minimum distance of 10 feet (3048 mm) from the exterior wall facing the imaginary line and the entire length and span of the supporting elements for the fire-resistance-rated roof assembly has a fire-resistance rating of not less than 1 hour.
2. Buildings on the same lot and considered as portions of one building in accordance with Section 704.3 are not required to comply with Section 704.8.6.

711.3.3 Unusable space. In 1-hour fire-resistance-rated floor ~~construction~~ assembly, the ceiling membrane is not required to be installed over unusable crawl spaces. In 1-hour fire-resistance-rated roof ~~construction~~ assembly, the floor membrane is not required to be installed where unusable attic space occurs above.

711.4 (Supp) Continuity. Assemblies shall be continuous without openings, penetrations or joints except as permitted by this section and Sections 707.2, 712.4, 713 and 1020.1. Skylights and other penetrations through a fire-resistance-rated roof deck or slab are permitted to be unprotected, provided that the structural integrity of the fire-resistance-rated roof ~~construction~~ assembly is maintained. Unprotected skylights shall not be permitted in roof ~~construction~~ assembly required to be fire-resistance rated in accordance with Section 704.10. The supporting construction shall be protected to afford the required fire-resistance rating of the horizontal assembly supported.

Exception: In buildings of Type IIB, IIIB or VB construction, the construction supporting the horizontal assembly is not required to be fire-resistance-rated at the following:

1. Horizontal assemblies at the separations of incidental uses as specified by Table 508.2, provided the required fire-resistance rating does not exceed 1-hour.
2. Horizontal assemblies at the separations of dwelling units and sleeping units as required by Section 419.3.
3. Horizontal assemblies at smoke barriers constructed in accordance with Section 709.

721.5.2.3 (Supp) Structural steel trusses. The fire resistance of structural steel trusses protected with fire-resistant materials sprayed to each of the individual truss elements shall be permitted to be determined in accordance with this section. The thickness of the fire-resistant material shall be determined in accordance with Section 721.5.1.3. The weight-to-heated-perimeter ratio (*W/D*) of truss elements that can be simultaneously exposed to fire on all sides shall be determined on the same basis as columns, as specified in Section 721.5.1.1. The weight to-heated-perimeter ratio (*W/D*) of truss elements that directly support floor or roof ~~construction~~ assembly shall be determined on the same basis as beams and girders, as specified in Section 721.5.2.1.

The fire resistance of structural steel trusses protected with intumescent or mastic fire-resistant coatings shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

805.1.1 Subfloor construction. Floor sleepers, bucks and nailing blocks shall not be constructed of combustible materials, unless the space between the fire-resistance-rated floor ~~construction~~ assembly and the flooring is either solidly filled with approved noncombustible materials or fireblocked in accordance with Section 717, and provided that such open spaces shall not extend under or through permanent partitions or walls.

805.1.2 Wood finish flooring. Wood finish flooring is permitted to be attached directly to the embedded or fireblocked wood sleepers and shall be permitted where cemented directly to the top surface of approved fire-resistance-rated floor ~~construction~~ assembly or directly to a wood subfloor attached to sleepers as provided for in Section 805.1.1.

909.20.2 Construction. The smokeproof enclosure shall be separated from the remainder of the building by not less than a 2-hour fire barrier without openings other than the required means of egress doors. The vestibule shall be separated from the stairway by not less than a 2-hour fire barrier. The open exterior balcony shall be constructed in accordance with the fire-resistance-rating requirements for floor ~~construction~~ assembly.

PART III – IFC

Revise as follows:

2703.8.3.4 Fire-resistance rating requirements. The required fire-resistance rating for fire barriers shall be in accordance with Table 2703.8.3.2. The floor ~~construction~~ assembly of the control area and the construction supporting the floor of the control area shall have a minimum 2-hour fire-resistance rating.

Exception: The floor ~~construction~~ assembly of the control area and the construction supporting the floor of the control area is allowed to be 1-hour fire-resistance rated in buildings of Type IIA, IIIA and VA construction, provided that both of the following conditions exist:

1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1; and
2. The building is three stories or less in height.

Reason: Section 711.1 on horizontal assemblies states that “floor and roof assemblies required to have a fire-resistance-rating shall comply with this section” (i.e., horizontal assemblies). There are no comparable requirements in the IBC, however, for floor construction or roof construction. The requirements in Section 711 for horizontal assemblies ensure that fire-resistance-rated floor assemblies and roof assemblies provide fire containment (i.e., compartmentation) between stories by means of the requirements in Section 711 for continuity and the fire-resistance-rated protection of penetrations, joints and other openings. There are exceptions for roof assemblies and the fire-protection-rated protection of certain penetrations and openings (e.g., contained with the cavity of a wall, fire dampers at ducts connecting two stories, etc.), but the overall affect is that horizontal fire containment is achieved when the provisions for horizontal assemblies are met.

Fire-resistance-rated floor construction and roof construction, by virtue of their listings in Table 601 on fire-resistance rating requirements for building elements, provide fire endurance in the same manner that the structural frame, bearing walls and other structural building elements are required to be fire-resistance-rated due to their listings in Table 601. This fire endurance maintains structural integrity during a fire event but it does not provide fire containment in the manner that is provided by fire barriers and horizontal assemblies.

The code sections in this proposal currently specify requirements for fire-resistance-rated floor or roof construction or reference fire-resistance-rated floor or roof construction for related purposes. The intent of these provisions, however, is judged to specify or reference fire-resistance-rated floor assemblies or roof assemblies for the purpose of providing fire containment in addition to the fire endurance provided by being listed in Table 601. The proposal changes floor construction to floor assembly(ies) and roof construction to roof assembly(ies) in the necessary code sections consistent with the judgment that fire containment in addition to fire endurance is intended.

Certain provisions of the IBC apply specifically to the listings in Table 601 and are not affected by this proposal. They are Sections 602.4.3, 1406.3 and 3104.3 (Exception #2).

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Errata: FS20-07/08, PART II: Revise Sections 711.3.3, 711.4 and 909.20.2 as follows:

711.3.3 Unusable space. In 1-hour fire-resistance-rated floor ~~construction~~ assemblies, the ceiling membrane is not required to be installed over unusable crawl spaces. In 1-hour fire-resistance-rated roof ~~construction~~ assemblies, the floor membrane is not required to be installed where unusable attic space occurs above.

711.4 (Supp) Continuity. Assemblies shall be continuous without openings, penetrations or joints except as permitted by this section and Sections 707.2, 712.4, 713 and 1020.1. Skylights and other penetrations through a fire-resistance-rated roof deck or slab are permitted to be unprotected, provided that the structural integrity of the fire-resistance-rated roof ~~construction~~ assembly is maintained. Unprotected skylights shall not be permitted in roof ~~construction~~ assemblies required to be fire-resistance rated in accordance with Section 704.10. The supporting construction shall protected to afford the required fire-resistance rating of the horizontal assembly supported.

909.20.2 Construction. The smokeproof enclosure shall be separated from the remainder of the building by not less than a 2-hour fire barrier without openings other than the required means of egress doors. The vestibule shall be separated from the stairway by not less than a 2-hour fire barrier. The open exterior balcony shall be constructed in accordance with the fire-resistance-rating requirements for floor ~~construction~~ assemblies.

PART I – IBC GENERAL

Committee Action:

Approved as Submitted

Committee Reason: Clarifies that the terms “floor construction” and “roof construction” are intended to mean “floor assembly” and “roof assembly”, respectively. This provides consistency of terms throughout the code.

Assembly Action:

None

PART II – IBC FIRE SAFETY

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the intent of the revised sections is to specify or reference fire-resistance-rated floor assemblies or roof assemblies for the purpose of providing fire containment in addition to the fire endurance provided by being listed in Table 601. The proposal appropriately changes floor construction to floor assembly(ies) and roof construction to roof assembly(ies) in these code sections.

Assembly Action:

None

PART III – IFC

Committee Action:

Approved as Submitted

Committee Reason: The change will provide correct and properly correlated terminology between the IBC and the IFC for fire-resistance-rated floor and roof construction. This action is also consistent with the action taken by the IBC-G and IBC-FS Committees.

Assembly Action:

None

Final Hearing Results

FS20-07/08, Part I	AS
FS20-07/08, Part II	AS
FS20-07/08, Part III	AS

Code Change No: FS80-07/08

Original Proposal

Sections: 711.5, 711.6, 712.4.1.2, 902.1 (IFC [B] 902.1)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

711.5 Penetrations. Penetrations of ~~fire-resistance-rated~~ horizontal assemblies shall comply with Section 712.

711.6 Joints. Joints made in or between ~~fire-resistance-rated~~ horizontal assemblies shall comply with Section 713. The void created at the intersection of a floor/ceiling assembly and an exterior curtain wall assembly shall be protected in accordance with Section 713.4.

712.4.1.2 (Supp) Membrane penetrations. Penetrations of membranes that are part of a ~~fire-resistance-rated~~ horizontal assembly shall comply with Section 712.4.1.1.1 or 712.4.1.1.2. Where floor/ceiling assemblies are required to have a fire-resistance rating, recessed fixtures shall be installed such that the required fire resistance will not be reduced.

Exceptions:

1. Membrane penetrations by steel, ferrous or copper conduits, pipes, tubes or vents, or concrete or masonry items where the annular space is protected either in accordance with Section 712.4.1.1 or to prevent the free passage of flame and the products of combustion. The aggregate area of the openings through the membrane shall not exceed 100 square inches (64 500 mm²) in any 100 square feet (9.3m²) of ceiling area in assemblies tested without penetrations.
2. Ceiling membrane penetrations of maximum 2-hour ~~fire-resistance-rated~~ horizontal assemblies by steel electrical boxes that do not exceed 16 square inches (10 323 mm²) in area, provided the aggregate area of such penetrations does not exceed 100 square inches (44 500 mm²) in any 100 square feet (9.29m²) of ceiling area, and the annular space between the ceiling membrane and the box does not exceed 1/8 inch (3.12 mm).
3. Membrane penetrations by electrical boxes of any size or type, which have been listed as part of an opening protective material system for use in horizontal ~~fire-resistance-rated~~ assemblies and are installed in accordance with the instructions included in the listing.
4. Membrane penetrations by listed electrical boxes of any material, provided such boxes have been tested for use in fire-resistance-rated assemblies and are installed in accordance with the instructions included in the listing. The annular space between the ceiling membrane and the box shall not exceed 1/8 inch (3.1 mm) unless listed otherwise.
5. The annular space created by the penetration of a fire sprinkler, provided it is covered by a metal eschutcheon plate.

**SECTION 902
DEFINITIONS**

902.1 (Supp) (IFC [B] 902.1) Definitions. The following words and terms shall, for the purposes of this chapter, and as used elsewhere in this code, have the meanings shown herein.

FIRE AREA. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or ~~fire-resistance-rated~~ horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor above.

Reason: The changes are proposed for consistency with the definition of "horizontal assembly" in Section 702.1, which is a "fire-resistance-rated floor or roof assembly of materials designed to restrict the spread of fire in which continuity is maintained." The changes will eliminate superfluous language. The code sections above contain the only instances of "fire-resistance-rated" preceding "horizontal assembly(ies)" in the IBC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proposed revisions were appropriate for consistency with the definition of "horizontal assembly" in Section 702.1, which is a "fire-resistance-rated floor or roof assembly of materials designed to restrict the spread of fire in which continuity is maintained."

Assembly Action:

None

Final Hearing Results

FS80-07/08

AS

Code Change No: FS165-07/08

Original Proposal

Sections: 803.9 (New); IFC 803.8 (New)

Proponent: Jim Lathrop, Koffel Associates, Inc., representing Bobrick

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC FIRE SAFETY AND THE IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC FIRE SAFETY

Add new text as follows:

803.9 High Density Polyethylene (HDPE). Where high density polyethylene is used as an interior finish it shall comply with Section 803.1.2. (Supp)

(Renumber subsequent sections)

PART II – IFC

Add new text as follows:

803.8 High Density Polyethylene (HDPE). Where high density polyethylene is used as an interior finish it shall comply with Section 803.1.2. (Supp) of the IBC

Reason: HDPE is a thermoplastic that when it burns gives off considerable energy and produces a pooling flammable liquids fire. Recent full scale room-corner tests using NFPA 286 have demonstrated a significant hazard. These tests had to be terminated prior to the standard 15 minute duration due to flashover occurring, yet there was still much of the product left to burn. Extensive flammable liquid pool fires occurred during the tests. Yet this same material when tested in accordance with the tunnel test, ASTM E-84, is often given a FSI of 25 or less. However the resulting test is so intense some labs will not test HDPE partitions in their tunnel due to the damage it can do to the tunnel. This proposal will

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

assure that when using HDPE partitions they will be formulated in such a manner to reduce the hazard that they present. Following is some of the data from one of the NFPA 286 tests: Peak HRR (excl burner) 1733 kW; Total Heat Released (excl. burner) 121 MJ; Peak Heat Flux to the floor 35.2 kW/m²; Peak Avg Ceiling Temp 805°C, 1481°F

Cost Impact: NFPA 286 is a more expensive test than is ASTM E-84 however it yields usable data that ASTM E-84 does not, and the test arrangement is more representative of how the product is used.

Public Hearing Results

PART I – IBC FIRE SAFETY**Committee Action:****Approved as Modified****Modify the proposal as follows:**

803.9 High Density Polyethylene (HDPE). Where high density polyethylene is used as an interior finish it shall comply with the requirements of Section 803.1.2. (Supp)

Committee Reason: The committee agreed that these products are being used and there performance is critical to public health and safety; therefore these products should be regulated and this proposal is appropriate. The modification results in more enforceable language.

Assembly Action:**None****PART II – IFC****Committee Action:****Approved as Submitted**

Committee Reason: This change identifies a known interior finish hazard, provides retroactive regulation of it and is consistent with the action taken by the IBC-FS Committee.

Assembly Action:**None**

Final Hearing Results

FS165-07/08, Part I	AM
FS165-07/08, Part II	AS

2006 INTERNATIONAL FIRE CODE DOCUMENTATION

IBC - GENERAL

Code Change No: **G13-07/08**

Original Proposal

Sections: 202, 502.1, 902.1 (IFC [B] 902.1), 1612.2, 412.2.2, [F] 415.4, [F] 903.2.8.1 (IFC 903.2.8.1), 1203.3, 1915.5, 2111.13.3, 2308.11.2, 2308.12.2

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

SECTION 202 DEFINITIONS

BASEMENT (for other than flood loads). See Sections 502.1 and 1612.2.

BASEMENT (for flood loads). See Section 1612.2.

STORY ABOVE GRADE PLANE. (Supp) Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor or roof next above is:

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

BASEMENT. (Supp) A story that is not a story above grade plane (See "Story above grade plane" in Section 202).

The definition of "Basement" does not apply to the provisions of Section 1612 for flood loads (see "Basement" in Section 1612.2).

902.1 (IFC [B] 902.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FIRE AREA. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or fire resistance-rated horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above.

1612.2 Definitions. The following words and terms shall, for the purposes of this section, have the meanings shown herein.

BASEMENT. The portion of a building having its floor subgrade (below ground level) on all sides.

The definition of "Basement" is limited in application to the provisions of Section 1612 (see "Basement" in Section 502.1).

412.2.2 Basements. Where hangars have basements, the floor over the basements shall be of Type IA construction and shall be made tight against seepage of water, oil or vapors. There shall be no opening or communication between the basements and the hangar. Access to the basements shall be from outside only.

[F] 415.4 Special provisions for Group H-1 occupancies. Group H-1 occupancies shall be in buildings used for no other purpose, shall not exceed one story in height and be without a basements, crawl spaces or other under-

floor spaces. Roofs shall be of lightweight construction with suitable thermal insulation to prevent sensitive material from reaching its decomposition temperature. Group H-1 occupancies containing materials which are in themselves both physical and health hazards in quantities exceeding the maximum allowable quantities per control area.

[F] 903.2.8.1 (IFC 903.2.8.1) (Supp) Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406, as shown:

1. Buildings having two or more stories above grade plane, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m²).
2. Buildings no more than one story above grade plane, with a fire area containing a repair garage exceeding 12,000 square feet (1115 m²).
3. Buildings with a repair garages servicing vehicles parked in the basements.

1203.3 Under-floor ventilation. The space between the bottom of the floor joists and the earth under any building except spaces occupied by a basements or cellars shall be provided with ventilation openings through foundation walls or exterior walls. Such openings shall be placed so as to provide cross ventilation of the under-floor space.

1915.5 (Supp) Fire-resistance-rating protection. Pipe columns shall be of such size or so protected as to develop the required fire-resistance ratings specified in Table 601. Where an outer steel shell is used to enclose the fire protective covering, the shell shall not be included in the calculations for strength of the column section. The minimum diameter of pipe columns shall be 4 inches (102 mm) except that in structures of Type V construction not exceeding three stories or 40 feet (12 192 mm) in height, pipe columns used in the basements and as secondary steel members shall have a minimum diameter of 3 inches (76 mm).

2111.13.3 Exterior air intake. The exterior air intake shall be capable of providing all combustion air from the exterior of the dwelling. The exterior air intake shall not be located within the a garage, attic, basement or crawl space of the dwelling nor shall the air intake be located at an elevation higher than the firebox. The exterior air intake shall be covered with a corrosion-resistant screen of 1/4-inch (6.4 mm) mesh.

2308.11.2 (Supp) Concrete or masonry. Concrete or masonry walls and stone or masonry veneer shall not extend above the a basement.

Exceptions:

1. Stone and masonry veneer is permitted to be used in the first two stories above grade plane or the first three stories above grade plane where the lowest story has concrete or masonry walls in Seismic Design Category B, provided that structural use panel wall bracing is used and the length of bracing provided is one- and one half times the required length as determined in Table 2308.9.3(1).
2. Stone and masonry veneer is permitted to be used in the first story above grade plane or the first two stories above grade plane where the lowest story has concrete or masonry walls in Seismic Design Category B or C.
3. Stone and masonry veneer is permitted to be used in the first two stories above grade plane in Seismic Design Categories B and C, provided the following criteria are met:
 - 3.1. Type of brace per Section 2308.9.3 shall be Method 3 and the allowable shear capacity in accordance with Table 2306.4.1 shall be a minimum of 350 plf (5108 N/m).
 - 3.2. The bracing of the top story shall be located at each end and at least every 25 feet (7620 mm) o.c. but not less than 40 percent of the braced wall line. The bracing of the first story shall be located at each end and at least every 25 feet (7620 mm) o.c. but not less than 35 percent of the braced wall line.
 - 3.3. Hold-down connectors shall be provided at the ends of braced walls for the second floor to first floor wall assembly with an allowable design of 2,000 pounds (8896 N). Hold-down connectors shall be provided at the ends of each wall segment of the braced walls for the first floor to foundation with an allowable design of 3,900 pounds (17 347 N). In all cases, the hold-down connector force shall be transferred to the foundation.
 - 3.4. Cripple walls shall not be permitted.

2308.12.2 (Supp) Concrete or masonry. Concrete or masonry walls and stone or masonry veneer shall not extend above the a basement.

Exception: Stone and masonry veneer is permitted to be used in the first story above grade plane in Seismic Design Category D, provided the following criteria are met:

1. Type of brace in accordance with Section 2308.9.3 shall be Method 3 and the allowable shear capacity in accordance with Table 2306.4.1 shall be a minimum of 350 plf (5108 N/m).
2. The bracing of the first story shall be located at each end and at least every 25 feet (7620 mm) o.c. but not less than 45 percent of the braced wall line.
3. Hold-down connectors shall be provided at the ends of braced walls for the first floor to foundation with an allowable design of 2,100 pounds (9341 N).
4. Cripple walls shall not be permitted.

Reason: Proposal G8-06/07-AMPC1 revised the definition of "basement" to be a story that is not a story above grade plane. The proposal extends these changes to other sections of the IBC. A "story" is a vertical space between each floor and between the upper floor and the roof. There are instances where a basement is assumed to be all stories below grade plane instead of an individual story below grade plane. The proposal makes the necessary corrections for consistency with the revised definition of "basement."

A comprehensive review of the 2006 IBC and 2007 Supplement was made during the preparation of this proposal and it was determined that, except for flood loads (below), the code sections referring to basements do so consistent with the revised definition of "basement" except for the code sections in this proposal. Approximately 50 such code sections were studied.

The definition of "story" in Section 202 establishes the vertical space as "between the upper surface of a floor and the upper surface of the floor or roof next above." The proposal revises the definitions of "story above grade plane" in Section 202 and "fire area" in Section 902.1 for consistency with this definition.

The definition of "basement" in Section 502.1 applies to all provisions of the IBC except for flood loads in Section 1612 for which there is a separate definition of "basement" (see Section 1612.2). This proposal adds language following the definitions in Sections 502.1 and 1612.2 and revises Section 202 to clarify the application of both definitions.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal provides a necessary editorial clean up of the definition of the term basement and its use throughout the code.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Lori Lee Graham, City of Portland, OR, representing herself requests Approval as Modified by this public comment.

Modify proposal as follows:

**SECTION 202
DEFINITIONS**

STORY ABOVE GRADE PLANE. (Supp) Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor ~~or roof~~ next above is:

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Measuring to the roof next above is problematic. On a mansard roof, where do I measure? On a pitched roof, where do I measure? If the roof is flat, I have a good idea where I measure, but in all other instances I don't. It is inappropriate to determine whether a story is a story above grade based on something as variable as the roof surface.

Final Hearing Results

G13-07/08

AMPC

Code Change No: **G14-07/08**

Original Proposal

Sections: 202 (New), 403.1, 707.14.1; IFC 903.3.5.2 (IBC [F] 903.3.5.2), 903.4.3 (IBC [F] 903.4.3), 907.2.12 (IBC [F] 907.2.12), 907.7.3.2 (IBC [F] 907.7.3.2)

Proponent: Tom Lariviere, Madison Fire Department, MS, representing the Joint Fire Service Review Committee

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Add a new definition as follows:

SECTION 202
DEFINITIONS

HIGH-RISE BUILDING. A building with an occupied floor located more than 75 feet (23 m) above the lowest level of fire department vehicle access.

2. Revise as follows:

403.1 Applicability. ~~The provisions of this section shall apply to buildings with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.~~ High rise buildings shall comply with Section 403.2 through 403.18.

Exception: The provisions of ~~this~~ Section 403.2 through 403.18 shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.

707.14.1 (Supp) Elevator lobby. An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than three stories. The lobby shall separate the elevator shaft enclosure doors from each floor by fire partitions equal to the fire-resistance rating of the corridor and the required opening protection. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.

Exceptions:

1. Enclosed elevator lobbies are not required at the street floor, provided the entire street floor is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Elevators not required to be located in a shaft in accordance with Section 707.2 are not required to have enclosed elevator lobbies.
3. Where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall be tested in accordance with UL 1784 without an artificial bottom seal.
4. In other than Group I-2 and I-3, and high-rise buildings having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
5. Smoke partitions shall be permitted in lieu of fire partitions to separate the elevator lobby at each floor where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
6. Enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 707.14.2.

PART II – IFC**Revise as follows:**

903.3.5.2 (IBC [F] 903.3.5.2) Secondary water supply. A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings required to comply with Section 403 of the *International Building Code* in Seismic Design Category C, D, E or F as determined by this code. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

Exception: ~~Existing buildings.~~

903.4.3 (IBC [F] 903.4.3) Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings required to comply with Section 403 of the *International Building Code*.

907.2.12 (IBC [F] 907.2.12) (Supp) High-rise buildings. ~~Buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access~~ High rise buildings shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Sections 907.2.21 and 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special occupancies in accordance with Section 503.1.1.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.
6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the paging system.

907.7.3.2 (IBC [F] 907.7.3.2) (Supp) High-rise buildings. ~~In buildings with a floor used for human occupancy that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access,~~ high rise buildings required to comply with Section 403 of the *International Building Code*, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

Reason: The term “High-Rise Building” is utilized in numerous locations through-out the IBC and IFC. However, there is no definition for a “High-Rise Building.” This definition is proposed from and is consistent with the high-rise building applicability language in section 403.1 of the IBC. The definition will be applied to both the IFC and the IBC and provide consistency.

Additionally, Section 903.3.5.2 is revised by deleting the exception. The exception refers to existing buildings and is not necessary in this section. IFC Section 903.6 deals specifically with existing buildings and this provision is not required in that section. Therefore, it is not necessary under the major section 903.3 since it does not address existing buildings at all.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results
PART I – IBC GENERAL**Committee Action:****Approved as Submitted**

Committee Reason: Clarifies throughout the code that a high rise building is a building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Assembly Action:**None****PART II – IFC****Committee Action:****Disapproved**

Committee Reason: The proposed added text would be redundant since high-rise buildings must already comply with IBC Section 403. The deletion of the exception in Section 903.3.5.2 is inappropriate in light of the difficulties in retrofitting existing buildings.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Tom Lariviere, Madison Fire Department, MS, representing the Joint Fire Service Review Committee requests Approval as Modified by this public comment for Part II.

Modify proposal as follows:

903.3.5.2 (IBC [F] 903.3.5.2) Secondary water supply. A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings ~~required to comply with Section 403 of the International Building Code~~ in Seismic Design Category C, D, E or F as determined by this code. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

Exception: Existing buildings.

903.4.3 (IBC [F] 903.4.3) Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings ~~required to comply with Section 403 of the International Building Code.~~

907.2.12 (IBC [F] 907.2.12) (Supp) High-rise buildings. High rise buildings shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.6.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Sections 907.2.21 and 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special occupancies in accordance with Section 503.1.1.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.
6. In Group I-1 and I-2 occupancies, the alarm shall sound at a constantly attended location and general occupant notification shall be broadcast by the paging system.

907.7.3.2 (IBC [F] 907.7.3.2) (Supp) High-rise buildings. In high rise buildings ~~required to comply with Section 403 of the International Building Code,~~ a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

Commenter's Reason: The term "High-Rise Building" is utilized in numerous locations through-out the IBC and IFC. Part I was Approved as Submitted by the IBC General Committee which added the definition of "High-Rise Building" to the IBC. This definition is consistent with, and replaces the language used in each of the sections.

The revisions in this Public Comment to Part II will utilize the same definition in the IFC and provide consistency between the codes. The phrase "required to comply with Section 403 of the IBC" has been deleted since it is redundant and Section 403 only addresses high rise buildings.

Additionally, Section 903.3.5.2 is revised by re-inserting the exception. The exception refers to existing buildings and would only apply when an existing high rise is being retrofit with fire sprinklers. The difficulty in retrofitting existing high rise buildings would only be compounded if this exception is deleted, and the high rise building is not structurally designed to support the secondary water supply.

Final Hearing Results

**G14-07/08, Part I
G14-07/08, Part II**

**AS
AMPC**

Code Change No: **G16-07/08**

Original Proposal

Sections: 202 (New); IECC 202; IFC 202; IFGC 202; IMC 202; IPMC 202; IRC 202

Proponent: Bob Eugene, Underwriters Laboratories Inc.

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL, IECC, IFC, IFGC, IMC, IPMC AND IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 7 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

Add new definition as follows:

SECTION 202 DEFINITIONS

LABELED. Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART II – IECC

Revise as follows:

SECTION 202 GENERAL DEFINITIONS

~~**LABELED.** Devices, equipment, or materials to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items that attests to compliance with a specific standard.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART III – IFC

Revise as follows:

SECTION 202 GENERAL DEFINITIONS

~~**LABELED.** Equipment or material to which has been attached a label, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling is indicated compliance with nationally recognized standards or tests to determine suitable usage in a specified manner.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART IV – IFGC

Revise as follows:

**SECTION 202 (IFGC)
GENERAL DEFINITIONS**

~~LABELED. Devices, equipment, appliances or materials to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and by whose label the manufacturer attests to compliance with applicable nationally recognized standards.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART V – IMC

Revise as follows:

**SECTION 202
GENERAL DEFINITIONS**

~~LABELED. Devices, equipment, appliances or materials to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and by whose label the manufacturer attests to compliance with applicable nationally recognized standards.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART VI – IPMC

Revise as follows:

**SECTION 202
GENERAL DEFINITIONS**

~~LABELED. Devices, equipment, appliances, or materials to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and by whose label the manufacturer attests to compliance with applicable nationally recognized standards.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

PART VII – IRC BUILDING/ENERGY**Revise as follows:**

~~**LABELED.** Devices, equipment or materials to which have been affixed a label, seal, symbol or other identifying mark of a testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above labeled items that attests to compliance with a specific standard.~~

Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Reason: The term "labeled" is used throughout the *International Building Code* and other I-Codes. It is preferred to have such a definition in Chapter 2 rather than elsewhere in code. The definition complements the definition of "LABEL" currently in IBC Section 1702.1 and the requirements of IBC Section 1703.5. Through a series of proposals, the exact same generic text is being proposed for each of the I-codes where the term is used.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results
PART I – IBC GENERAL**Committee Action:****Approved as Submitted**

Committee Reason: Defining the term 'labeled' provides a necessary definition and will add clarity and consistency to the code.

Assembly Action:**None****PART II – IECC****Committee Action:****Approved as Submitted**

Committee Reason: This definition for "labeled" needs to be the same definition throughout the I-Codes for purposes of uniform application of the codes for products requiring third party certification.

Assembly Action:**None****PART III – IFC****Committee Action:****Approved as Submitted**

Committee Reason: The change will provide a clearer definition that is correlated with its companion term "Listed". Approval is also consistent with the actions taken on Parts I and II, and IV through VI to correlate with the other I-Codes.

Assembly Action:**None****PART IV – IFGC****Committee Action:****Approved as Modified****Modify proposal as follows:**

LABELED. Equipment, appliances, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, appliance, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The proposed definition will provide consistent text throughout the codes in the ICC family. The modification adds "appliances" because the IFGC regulates gas appliances which do not fall under the definition of equipment and which are required to be listed and labeled.

Assembly Action:**None****PART V – IMC****Committee Action:****Approved as Modified**

Modify proposal as follows:

LABELLED. Equipment, appliances, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The latter part of this definition was reworded to better clarify what labeling a product signifies. The definition will be coordinated with all other I-codes. The modification added the term “appliances” back into the definition from the existing language to complete the list of items which receive labels.

Assembly Action: **None**

PART VI – IPMC

Committee Action: **Approved as Submitted**

Committee Reason: The proposal was approved to provide consistency across the I-Codes with respect to the technical definition of the term “label.”

Assembly Action: **None**

PART VII – IRC-B/E

Committee Action: **Disapproved**

Committee Reason: The committee preferred the current language in the code for consistency across the International Codes with respect to the technical definition of the term “labeled.”

Assembly Action: **Approved as Submitted**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part IV.

Commenter’s Reason: Although “appliances” would not be included under the term “equipment”, they would be included under the term “products”, so the definition as submitted is not flawed. Appliances are products that are required to be listed and labeled elsewhere in the code. The definition for “Labeled” was approved as Submitted in the International Building Code, International Energy Conservation Code, International Fire Code and International Property Maintenance Code. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part V.

Commenter’s Reason: Although “appliances” would not be included under the term “equipment”, they would be included under the term “products”, so the definition as submitted is not flawed. Appliances are products that are required to be listed and labeled elsewhere in the code. Additionally, the definition of “labeled” as modified by the Mechanical Committee is flawed. The term “appliances” was added only in the first line by the committee, but omitted in the fourth line. The definition for “Labeled” was approved as Submitted in the International Building Code, International Energy Conservation Code, International Fire Code and International Property Maintenance Code. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part VII.

Commenter’s Reason: The membership in attendance at Palm Springs recognized the benefit of having a consistent definition for the term “labeled” as used throughout the family of International Codes. The definition for “Labeled” was Approved as Submitted in the International Building Code, International Energy Conservation Code, International Fire Code and International Property Maintenance Code. The Fuel Gas and Mechanical Committees each modified the definition differently from the submitted definition and from each other’s modified definitions. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

Final Hearing Results

G16-07/08, Part I	AS
G16-07/08, Part II	AS
G16-07/08, Part III	AS
G16-07/08, Part IV	AS
G16-07/08, Part V	AS
G16-07/08, Part VI	AS
G16-07/08, Part VII	AS

Code Change No: G17-07/08

Original Proposal

Sections: 202; IECC 202; IFC 202 (IBC [F] 902.1); IFGC 202; IMC 202; IRC 202

Proponent: Bob Eugene, Underwriters Laboratories Inc.

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL, IECC, IFC, IFGC, IMC AND IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 6 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Revise as follows:

SECTION 202 DEFINITIONS

LISTED. ~~See Section 902.1.~~ Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART II – IECC

Revise as follows:

SECTION 202 GENERAL DEFINITIONS

LISTED. ~~Equipment, appliances, assemblies or materials included in a list published by an approved testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances, assemblies or material, and whose listing states either that the equipment, appliances, assemblies, or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART III – IFC

Revise as follows:

**SECTION 202 (IBC [F] 902.1)
GENERAL DEFINITIONS**

~~**LISTED.** Equipment or materials included on a list published by an approved testing laboratory, inspection agency or other organization concerned with current product evaluation that maintains periodic inspection of production of listed equipment or materials, and whose listing states that equipment or materials comply with approved nationally recognized standards and have been tested or evaluated and found suitable for use in a specified manner.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART IV – IFGC

Revise as follows:

**SECTION 202
GENERAL DEFINITIONS**

~~**LISTED.** Equipment, appliances or materials included in a list published by a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances or materials, and whose listing states either that the equipment, appliance or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. The means for identifying listed equipment, appliances or materials may vary for each testing laboratory, inspection agency or other organization concerned with product evaluation, some of which do not recognize equipment, appliances or materials as listed unless they are also labeled. The authority having jurisdiction shall utilize the system employed by the listing organization to identify a listed product.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART V – IMC

Revise as follows:

**SECTION 202
GENERAL DEFINITIONS**

~~**LISTED.** Equipment, appliances or materials included in a list published by a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances or materials, and whose listing states either that the equipment, appliances or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. Not all testing laboratories, inspection agencies and other organizations concerned with product evaluation use the same means for identifying listed equipment, appliances or materials. Some do not recognize equipment, appliances or materials as listed unless they are also labeled. The authority having jurisdiction shall utilize the system employed by the listing organization to identify a listed product.~~

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

PART VI – IRC BUILDING/ENERGY

LISTED AND LISTING. Terms referring to equipment that is shown in a list published by an approved testing agency qualified and equipped for experimental testing and maintaining an adequate periodic inspection of current productions and whose listing states that the equipment complies with nationally recognized standards when installed in accordance with the manufacturer's installation instructions.

Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

Reason: The term "listed" is used in nearly every chapter of the *International Building Code* and throughout the other I-Codes. It is preferred to have such a definition in Chapter 2 of the IBC rather than in Chapter 9. The definition is somewhat revised from the definition currently in IBC Chapter 9, but through a series of proposals, the exact same generic text is being proposed for each of the I-codes where the term is used.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results
PART I – IBC GENERAL**Committee Action:****Approved as Submitted**

Committee Reason: Defining the term 'listed' provides a necessary definition and will add clarity and consistency to the code.

Assembly Action:**None****PART II – IECC****Committee Action:****Approved as Submitted**

Committee Reason: This definition for "listed" needs to be the same throughout the I-Codes for purposes of uniform application of the codes for products that need to be listed by an agency.

Assembly Action:**None****PART III – IFC****Committee Action:****Approved as Submitted**

Committee Reason: The proposal was approved for consistency with the action taken on code change G16-07/08, Part III.

Assembly Action:**None****PART IV – IFGC****Committee Action:****Approved as Modified****Modify proposal as follows:**

LISTED. Equipment, appliances, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment, appliances or materials or periodic evaluation of services and whose listing states either that the equipment, appliance, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The proposed definition will provide consistent text throughout the codes in the ICC family. The modification adds "appliances" because the IFGC regulates gas appliances which do not fall under the definition of equipment and which are required to be listed and labeled.

Assembly Action:**None****PART V – IMC****Committee Action:****Approved as Modified****Modify the proposal as follows:**

LISTED. Equipment, appliances, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

Committee Reason: The definition was simplified to clarify the meaning of a listed item and to delete a requirement that did not belong in a definition. The modification added the term “appliances” back into the definition from the existing language to complete the list of items that can be listed.

Assembly Action: **None**

PART VI – IRC-B/E

Committee Action: **Disapproved**

Committee Reason: The committee preferred the current language in the code for consistency across the International Codes with respect to the technical definition of the term “listed”.

Assembly Action: **Approved as Submitted**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part IV.

Commenter’s Reason: Although “appliances” would not be included under the term “equipment”, they would be included under the term “products”, so the definition as submitted is not flawed. Appliances are products that are required to be listed and labeled elsewhere in the code. The definition for “Listed” was approved as Submitted in the International Building Code, International Energy Conservation Code and International Fire Code. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part V.

Commenter’s Reason: Although “appliances” would not be included under the term “equipment”, they would be included under the term “products”, so the definition as submitted is not flawed. Appliances are products that are required to be listed and labeled elsewhere in the code. The Fuel Gas and Mechanical Committees each modified the definition differently from the submitted definition and from each others modified definitions. The definition of “labeled” as modified by the Mechanical Committee is flawed. The term “appliances” was added only in the first line by the committee, but omitted in the third and fourth lines. The definition for “Listed” was approved as Submitted in the International Building Code, International Energy Conservation Code, and International Fire Code. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

Public Comment:

Bob Eugene, Underwriters Laboratories Inc. requests Approval as Submitted for Part VI.

Commenter’s Reason: The definition as submitted expands the definition beyond “equipment.” Products other than “equipment” are required to be listed and labeled elsewhere in the code. The definition for “Listed” was approved as Submitted in the International Building Code, International Energy Conservation Code, and International Fire Code. The Fuel Gas and Mechanical Committees each modified the definition differently from the submitted definition and from each others modified definitions. For the sake of consistency and user-friendliness, the definition proposed needs to be Approved as Submitted.

Final Hearing Results

G17-07/08, Part I	AS
G17-07/08, Part II	AS
G17-07/08, Part III	AS
G17-07/08, Part IV	AS
G17-07/08, Part V	AS
G17-07/08, Part VI	AS

Code Change No: **G23-07/08**

Original Proposal

Sections: 304.1, 202 (New) [IFC [B] 202 (New)], 421 (New); IFC 903.2.2 (New) [IBC [F] 903.2.2 (New)], 907.2.2 (IBC [F] 907.2.2)

Proponent: John Williams, State of Washington Department of Health, Construction Review Services, WA

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL

1. Revise as follows:

304.1 (IFC [B] 202) Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- Ambulatory health care facilities (see section 421)
- Animal hospitals, kennels and pounds
- Banks
- Barber and beauty shops
- Car wash
- Civic administration
- Clinic—outpatient
- Dry cleaning and laundries: pick-up and delivery stations and self-service
- Educational occupancies for students above the 12th grade
- Electronic data processing
- Laboratories: testing and research
- Motor vehicle showrooms
- Post offices
- Print shops
- Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
- Radio and television stations
- Telephone exchanges
- Training and skill development not within a school or academic program

2. Add new definition as follows:

SECTION 202 (IFC 202) DEFINITIONS

AMBULATORY HEALTH CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation.

3. Add new text as follows:

SECTION 421 AMBULATORY CARE FACILITIES

421.1 General. Occupancies classified as Group B Ambulatory Health Care Facilities shall comply with the provisions of this section and other applicable provisions of this code.

421.2 Smoke barriers. Smoke barriers shall be provided to subdivide every ambulatory care facility greater than 10,000 square feet (929 m²) into a minimum of two smoke compartments. The travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be installed in accordance with Section 709.

421.3 Refuge area. At least 30 net square feet (2.8 m²) per nonambulatory patient shall be provided within the aggregate area of corridors, patient rooms, treatment rooms, lounge or dining areas and other low-hazard areas on each side of each smoke barrier.

421.4 Independent egress. A means of egress shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which means of egress originated.

421.5 Automatic Sprinkler Systems. Automatic sprinklers systems shall be provided for ambulatory care facilities in accordance with Section 903.2.2.

421.6 Fire alarm systems. A fire alarm system shall be provided in accordance with Section 907.2.2.

PART II – IFC

1. Add new text as follows:

903.2.2 (IBC [F] 903.2.2) Group B ambulatory health care facilities. An automatic sprinkler system shall be provided for Group B Ambulatory Health Care Facility occupancies when either of the following conditions are met:

1. Four or more care recipients are incapable of self preservation at any given time.
2. One or more care recipients that are incapable of self preservation are located at other than the level of exit discharge.

(Renumber subsequent sections)

2. Revise as follows:

907.2.2 (IBC [F] 907.2.2) (Supp) Group B. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.6 shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

A manual and automatic fire alarm system shall be installed in all Group B Ambulatory Health Care Facilities.

Reason: This code change is intended to address the issue of ambulatory surgery centers. Thirty years ago, few surgical procedures were performed outside of the hospital. Today, complex outpatient surgeries outside of the hospital are commonplace. They are performed in facilities often called “day surgery centers” or “Ambulatory surgical centers (ASC’s)” because patients are able to walk in and walk out the same day. Procedures render patients temporarily incapable of self-preservation by application of nerve blocks, sedation, or anesthesia. Patients in these facilities typically recover quickly.

The IBC identifies the healthcare Group I occupancies as having 24 hour stay. Without 24 stay these surgery centers are being classified as Group B. Essentially this allows you to render an unlimited number of people incapable of self preservation with no more protection than a business office. Since there is no distinct classification for ASC’s in the I codes, the total number of these facilities cannot be quantified. These types of facilities contain distinctly different hazards to life and safety than other Business Occupancies, such as:

- Patients incapable of self-preservation require rescue by other occupants or fire personnel.
- Medical staff must stabilize the patient prior to evacuation; therefore, staff may require evacuation as well.
- Use of oxidizing medical gases such oxygen and nitrous oxide
- Prevalence of surgical fires.

Past changes have tried to force these occupancies into the Group I-2 category. This is a poor fit, because these are not hospitals. Other Federal and State jurisdictions have recognized that there is a middle ground somewhere in between Group B and I-2. This proposal provides a scaled approach to protection. Occupancy classification stays as group B. A fire alarm is required in all facilities for increased staff awareness. A sprinkler is required when several people are incapable of self preservation. In larger facilities, a smoke compartment is provided to allow more of a protect in place environment. These allow staff a safer environment to stabilize the patients before evacuation, and protection for fire personnel who may have to evacuate both patients and staff.

An ICC CTC study group was formed last year to examine these facilities and determine what if any changes to the code are necessary. Unfortunately, scheduling did not allow enough time for the study group to complete a proposal for a code change. Hundreds of these facilities are being built every year, and those are the ones that we know about. Please do not wait until 2012 to provide a safer environment for this very sensitive population of patients.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC GENERAL Committee Action:

Approved as Modified

Modify the proposal as follows:

304.1 (IFC [B] 202) Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- Ambulatory health care facilities (~~see section 424~~)
- Animal hospitals, kennels and pounds
- Banks
- Barber and beauty shops
- Car wash
- Civic administration
- Clinic—outpatient
- Dry cleaning and laundries: pick-up and delivery stations and self-service
- Educational occupancies for students above the 12th grade
- Electronic data processing
- Laboratories: testing and research
- Motor vehicle showrooms
- Post offices
- Print shops
- Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
- Radio and television stations
- Telephone exchanges
- Training and skill development not within a school or academic program

421.2 Smoke barriers. Smoke barriers shall be provided to subdivide every ambulatory care facility greater than 10,000 square feet (929 m²) into a minimum of two smoke compartments per story. The travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be installed in accordance with Section 709.

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was felt to comprehensively address the issue of surgery centers that are not classified as Group I occupancies but need increased regulation based upon the conditions of the people being treated at these facilities. There were two modifications made. The first was simply an editorial revision to remove an unnecessary reference in the occupancy classifications to the new Section 421. The second clarifies that each story needs to be divided into at least 2 smoke compartments. This addresses multiple story facilities. The committee also felt that an issue to be addressed during public comment would be the threshold number of patients that classify an occupancy as an ambulatory health care facility.

Assembly Action:

None

PART II – IFC Committee Action:

Approved as Modified

Modify the proposal as follows:

903.2.2 (IBC [F] 903.2.2) Group B ambulatory health care facilities. An automatic sprinkler system shall be ~~provided for~~ installed throughout all fire areas containing a Group B Ambulatory Health Care Facility occupancies when either of the following conditions are met exist at any given time:

1. Four or more care recipients are ~~rendered~~ incapable of self preservation ~~at any given time~~
2. One or more care recipients that are incapable of self preservation are located at other than the level of exit discharge.

[F] 907.2.2 Group B. A manual fire alarm system ~~that activates the occupant notification system in accordance with Section 907.6~~ shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. Fire areas containing a Group B occupancy classified as an ambulatory health care facility

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

~~A manual and automatic fire alarm system shall be installed in all Group B ambulatory health care facilities.~~

[F] 907.2.2.2 Group B - Ambulatory health care facilities. Fire areas containing ambulatory health care facilities shall be provided with an electrically supervised automatic smoke detection system installed within the ambulatory health care facility and in public use areas outside of tenant spaces, including public corridors and elevator lobbies.

Exception: Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 provided the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change. This code change represents a co-operative effort of concerned parties through the ICC Code Technology Committee's Care Study Group to resolve a long-standing problem in how the code deals with the subject facilities. This also correlates with the action taken by the IBC-G Committee in Part I. The modification represents additional consensus on the level of protection that should be afforded these facilities.

Assembly Action:

None

Final Hearing Results

G23-07/08, Part I	AM
G23-07/08, Part II	AM

Code Change No: G24-07/08

Original Proposal

Sections: 304.1.1 (IFC [B] 202)

Proponent: Roger Severson, RSA Consulting, representing the Oregon Department of Health Services

Add new text as follows:

304.1.1 (IFC [B] 202) Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

CLINIC-OUTPATIENT. A medical office or facility serving patients who are capable of self-preservation, or where not more than three patients are rendered incapable of self-preservation and the facility is on the level of exit discharge. Facilities with four or more patients who are rendered incapable of self-preservation or where one or more patients that are incapable of self preservation are located at other than the level of exit discharge are Ambulatory Health Care Facilities (see Section 421.)

Reason: This code change is intended to be submitted in collaboration with the state of Washington to correlate with their new proposal in Section 421 for Ambulatory Health Care Facilities. Oregon, as well as other states, have made modifications to areas of the code affected by Clinic-outpatient facilities. These modifications and national certification requirements recognize that there are additional levels of protection required where patients are not capable of caring for them self. Finding common ground and putting these modifications into the model code would provide greater consistency across the country.

The amendment in Section 304.1 simply limits the number of patients who are not capable of self-preservation to three or fewer by adding a definition. There is also a reference that sends the reader to Section 421 for facilities that provide service to more than three patients incapable of self preservation.

Cost Impact: For facilities abiding by the requirements for federal funding, or for those areas who are modifying the code in a similar respect, the code change proposal will not increase the cost of construction.

However, for areas where outpatient clinics are allowed to provide services that would render patients incapable of self-preservation and be classified as a B occupancy, there would be an increase to the cost of construction.

Additionally, when a facility is not built to the standards required to receive federal funding, and they would then choose to become certified later, another additional cost could be imposed upon the facility.

Analysis: Note that the Section 421 that is referenced in this definition is a new section proposed in code change proposal Williams G23-07/08.

Public Hearing Results

Committee Action:**Approved as Modified****Modify the proposal as follows:**

304.1.1 (IFC [B] 202) Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

CLINIC-OUTPATIENT. ~~A medical office or facility serving patients who are capable of self-preservation, or where not more than three patients are rendered incapable of self-preservation and the facility is on the level of exit discharge. Facilities with four or more patients who are rendered incapable of self-preservation or where one or more patients that are incapable of self-preservation are located at other than the level of exit discharge are Ambulatory Health Care Facilities (see Section 421.) Buildings or portions thereof used to provide medical care on less than a 24-hour basis to individuals who are not rendered incapable of self-preservation by the services provided.~~

Committee Reason: The definition clarifies the difference between ambulatory surgery centers as addressed in G23-07/08 and doctors offices. The modification is simply to correlate more closely with G23-07/08.

Assembly Action:**None**

Final Hearing Results

G24-07/08

AM

Code Change No: G25-07/08

Original Proposal

Sections: 306.2 (IFC [B] 202), 311.2 (IFC 202.1), 311.3 (IFC 202.1), 421.2.1(New), [F] 412.2.6 (IFC 914.8.2), Table [F] 421.2.6 (IFC Table 914.8.2) (New), [F] 412.2.6.1 (IFC 914.8.2.1) (New), [F] 412.2.6.2 (IFC 914.8.2.2) (New)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing the Joint Fire Service Review Committee

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC GENERAL AND IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC GENERAL**Revise as follows:**

306.2 (IFC 202) Factory Industrial F-1 Moderate-hazard Occupancy. Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

- Aircraft (manufacturing, not to include repair)
- Appliances
- Athletic equipment
- Automobiles and other motor vehicles
- Bakeries
- Beverages; over 12-percent alcohol content
- Bicycles
- Boats
- Brooms or brushes
- Business machines
- Cameras and photo equipment

Canvas or similar fabric
Carpets and rugs (includes cleaning)
Clothing
Construction and agricultural machinery
Disinfectants
Dry cleaning and dyeing
Electric generation plants
Electronics
Engines (including rebuilding)
Food processing
Furniture
Hemp products
Jute products
Laundries
Leather products
Machinery
Metals
Millwork (sash & door)
Motion pictures and television filming (without spectators)
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing
Refuse incineration
Shoes
Soaps and detergents
Textiles
Tobacco
Trailers
Upholstering
Wood; distillation
Woodworking (cabinet)

311.2 (IFC 202) Moderate-hazard storage, Group S-1. Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosols, Levels 2 and 3
Aircraft repair hangar
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Dry boat storage (indoor)
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber

Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.6)
 Photo engravings
 Resilient flooring
 Silks
 Soaps
 Sugar
 Tires, bulk storage of
 Tobacco, cigars, cigarettes and snuff
 Upholstery and mattresses
 Wax candles

311.3 (IFC 202) Low-hazard storage, Group S-2. Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:

~~Aircraft hangar~~
 Asbestos
 Beverages up to and including 12-percent alcohol in metal, glass or ceramic containers
 Cement in bags
 Chalk and crayons
 Dairy products in nonwaxed coated paper containers
 Dry cell batteries
 Electrical coils
 Electrical motors
 Empty cans
 Food products
 Foods in noncombustible containers
 Fresh fruits and vegetables in nonplastic trays or containers
 Frozen foods
 Glass
 Glass bottles, empty or filled with noncombustible liquids
 Gypsum board
 Inert pigments
 Ivory
 Meats
 Metal cabinets
 Metal desks with plastic tops and trim
 Metal parts
 Metals
 Mirrors
 Oil-filled and other types of distribution transformers
 Parking garages, open or enclosed
 Porcelain and pottery
 Stoves
 Talc and soapstones
 Washers and dryers

PART II – IFC

1. Revise as follows:

[F] 412.2.6 (IFC 914.8.2) Fire suppression. Aircraft hangars shall be provided with a fire suppression system designed in accordance with as required by NFPA 409, based upon the classification for the hangar given in Table 412.2.6.

Exception: When a Fixed Base Operator has separate repair facilities on site, Group II hangars operated by a Fixed Base Operator used for storage of transient aircraft only, ~~as defined in NFPA 409, storing private aircraft without major maintenance or overhaul are~~ shall have a fire suppression system, but the system is exempt from foam suppression requirements.

2. Add new table and text as follows:

**[F] TABLE 412.2.6 (IFC TABLE 914.8.2)
HANGAR FIRE SUPPRESSION REQUIREMENTS^{a,b}**

Maximum Single Fire Area, sq. ft. (m ²)	Type of Construction								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
>40,001 (3,716)	Group I	Group I	Group I	Group I	Group I	Group I	Group I	Group I	Group I
40,000 (3,716)	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II	Group II
30,000 (2,787)	Group III	Group II							
20,000 (1,858)	Group III	Group III	Group II						
15,000 (1,394)	Group III	Group III	Group III	Group II	Group III	Group II	Group III	Group II	Group II
12,000 (1,115)	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group II	Group II
8,000 (743)	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group II
5,000 (465)	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III	Group III

- a. Aircraft hangars with a door height greater than 28 feet shall be provided with fire suppression for a Group I hangar regardless of maximum fire area.
- b. Groups shall be as classified in accordance with NFPA 409.

[F] 412.2.6.1 (IFC 914.8.2.1) Hazardous Operations. Any Group III aircraft hangar according to Table 914.8.2 that contains hazardous operations including, but not limited to, the following shall be provided with a Group I or Group II fire suppression system in accordance with NFPA 409 as applicable:

1. Doping.
2. Hot work including, but not limited to welding, torch cutting, and torch soldering.
3. Fuel transfer.
4. Fuel tank repair or maintenance not including de-fueled tanks per NFPA 409, inerted tanks or tanks that have never been fueled.
5. Spray finishing operations.
6. Total fuel capacity of all aircraft within the non-sprinklered single fire area in excess of 1,600 gal (6057 L).
7. Total fuel capacity of all aircraft within the maximum single fire area in excess of 7,500 gal (28,390 L) for a hangar with a fire sprinkler system per Section 903.3.1.1.

[F] 412.2.6.2 (IFC 914.8.2.2) Separation of maximum single fire areas. Maximum single fire areas established in accordance with hangar classification and construction type in Table 914.8.2 shall be separated by 2 hour fire walls constructed in accordance with Section 705.

412.2.1 DEFINITIONS. The following word and term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

FIXED BASE OPERATOR (FBO). A commercial business granted the right by the airport sponsor to operate on an airport and provide aeronautical services such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, and flight instruction.

TRANSIENT AIRCRAFT. Aircraft based at another location and is at the transient location for not more than 90 days.

Reason: The current fire suppression requirements found in the IBC and IFC for aircraft hangars are confusing at best. The IBC and IFC require: "Aircraft hangars shall be provided with fire suppression as required by NFPA 409." Neither the IBC nor the IFC gives any guidance when going to NFPA 409 on how to use that standard. In addition, the exception to the fire suppression requirements uses two terms that have no definition. Those terms are: "private aircraft" and "major maintenance or overhaul."

"Private aircraft" is difficult to define. For example, is a Cessna 210 owned by a corporation a private aircraft or the Gulfstream V (which carries over 6,700 gallons of fuel and has a range of that similar to a 737) owned by a celebrity a private aircraft? The FAA does not define aircraft this way and the reference to "private aircraft" is confusing and difficult to enforce and administer.

"Major maintenance or overhaul" is another term that is difficult to define. The FAA cannot even define "major maintenance" in a way intended by the IBC and IFC. The FAA has a document that all aircraft owners and operators have. It is CFR Part 43 Appendix A. There is no definitive list in this document that the code official can use when determining the extent of maintenance in an aircraft hangar. In addition, NFPA 409 makes no mention of "maintenance" for any of its requirements except for certain "hazardous operations" in Group III hangars.

This proposal will eliminate these two terms because they are difficult to define and they are not necessary when determining the fire suppression requirements from NFPA 409. There is an exception for the foam requirements in the IBC and IFC that use these terms. The

exception to 914.8.2 is intended for those aircraft hangars that Flight Base Operators (FBO) use for visiting aircraft to an airport. The FBO will have other repair facilities on the airport and the “storage” hangar is intended for short-term storage only inside a hangar from the weather.

In place of the “private aircraft” and “major maintenance” terms, this proposal adds the term “transient aircraft.” This better identifies the intent of this type of aircraft hangar. It seems that most frequently, the owner that wants to develop an aircraft hangar that fits the Group II category, will do no “major maintenance” and will only “store” airplanes in their hangar. This becomes a significant enforcement issue after the hangar is built and occupied, as everyone will then only be doing minor repair even though the aircraft engine is in pieces or a wing is lying on the floor of the hangar. NFPA 409 does not use “maintenance” as a criterion to determine the fire suppression requirements for any aircraft hangars except for Group III hangars where certain “hazardous” operations are conducted. Even then, if those “hazardous” operations are done, the group type of the hangar goes from a Group III hangar to a Group II.

The other aspect of maintenance that the IBC and IFC ignore is that of the maintenance of “experimental” aircraft. The experimental aircraft owner will always maintain and repair his or her aircraft as an FAA mechanic “will not” work on an experimental aircraft. An FAA mechanic cannot work on an experimental aircraft because there is no “service manual” for the aircraft like there is for a factory built aircraft. On every airport in the country where there are T-hangars, one will find experimental aircraft. As the codes currently read, this then becomes an enforcement problem requiring the code official to monitor maintenance in the T-hangars, which is not the intent of NFPA 409. NFPA 409 intends that maintenance be done in the small hangars just like in the large hangars.

Because repair is intended in NFPA 409 in aircraft hangars, this proposal eliminates the S-2 occupancy classification for “storage” aircraft hangars. The S-2 occupancy classification is confusing to the designer and code official and serves no purpose. The S-1 occupancy classification is all that is needed. When one looks at NFPA 409 to determine the fire suppression requirements, one will find that the Group III hangars have no fire suppression requirements except for during certain hazardous operations. NFPA 409 recognizes that in these small aircraft hangars there will be repair operations and has determined that fire suppression is not required due to the small size of the aircraft hangars. As the IBC and IFC are currently worded, if a designer were to select the S-2 occupancy classification, that hangar could not contain any repair operations. This does a disservice to the hangar owner and anyone who may lease or rent an aircraft space in that hangar. A Group III hangar could be as large as 12,000 square feet in area with Type IIB construction without any fire suppression systems and NFPA 409 would allow repair activities in that aircraft hangar.

NFPA 409 also limits the size of the small hangars with the definitions of a “single hangar building” and the “cluster hangar” for Group III aircraft hangars. These two definitions limit the size and location separations of these two types of hangars, which is part of the fire suppression scheme for Group III hangars. NFPA handles the lack of required separation of hangar buildings by requiring two two-hour walls on each hangar building. This seems to be like a “fire wall” as defined by IBC Section 705. This proposal thus adds this requirement for separation of single hangar buildings with a fire wall as defined by IBC Section 705 in lieu of the NFPA 409 requirement of two 2-hour walls.

NFPA 409 specifies fire protection for aircraft hangars based on Group I, Group II or Group III hangar, but the IBC and IFC do not define aircraft hangars using these terms. This proposal adds a table that coordinates the IBC/IFC terms and construction requirements with the fire protection design requirements found in NFPA 409 for Group I, II and III hangars. This table is based on correlating the NFPA construction and area limits with the IBC and IFC construction requirements. This table combines several tables in NFPA 409 into a single table that allows determination of the group type for aircraft hangars based on construction type and area before proceeding to NFPA 409 for the suppression requirements.

This proposal will simplify the current IBC and IFC requirements for aircraft hangars and make the codes easier to use by both the aircraft hangar designer and the code official.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC GENERAL

Committee Action:

Approved as Modified

Modify proposal as follows:

311.2 (IFC 202) Moderate-hazard storage, Group S-1. Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- Aerosols, Levels 2 and 3
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)
- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lumber
- Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.6)

Photo engravings
Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved as it was felt that Group S1 is a more appropriate classification and that a Group H classification would be too limiting. The modification clarifies that repairs can occur in Group S-1 occupancies which as originally written would have been unclear.

Assembly Action: **None**

PART II – IFC

Committee Action: **Approved as Modified**

Modify the proposal as follows:

**[F] TABLE 412.2.6 (IFC TABLE 914.8.2)
HANGAR FIRE SUPPRESSION REQUIREMENTS ^{a,b,c}**

(No change to table contents)

- a. Aircraft hangars with a door height greater than 28 feet shall be provided with fire suppression for a Group I hangar regardless of maximum fire area.
- b. Groups shall be as classified in accordance with NFPA 409.
- c. Membrane structures complying with Section 3102 of the *International Building Code* shall be classified as a Group IV hangar.

(Portions of proposal not shown remain unchanged)

Committee Reason: The committee agreed that the proponent's reason statement accurately and adequately substantiates the need for the change. This code change represents a comprehensive effort to resolve a long-standing problem in how to apply the provisions of NFPA 409 as referenced without creating conflict with the construction requirements of the IBC. This also correlates with the action taken by the IBC-G Committee in Part I. The modification provides additional guidance on the appropriate treatment of membrane structures which are often used to shelter aircraft.

Assembly Action: **None**

Final Hearing Results

G25-07/08, Part I	AM
G25-07/08, Part II	AM

Code Change No: G26-07/08

Original Proposal

Sections: 306.2, 306.3, 311.3 (IFC [B] 202)

Proposed Change as Submitted:

Proponent: Gary L. Rencehausen, Lewiston, ID, representing himself

1. Revise as follows:

306.2 (IFC [B] 202) Factory Industrial F-1 Moderate-hazard Occupancy. Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft
 Appliances
 Athletic equipment
 Automobiles and other motor vehicles
 Bakeries
 Beverages; over ~~42-~~ 16-percent alcohol content
 Bicycles
 Boats
 Brooms or brushes
 Business machines
 Cameras and photo equipment
 Canvas or similar fabric
 Carpets and rugs (includes cleaning)
 Clothing
 Construction and agricultural machinery
 Disinfectants
 Dry cleaning and dyeing
 Electric generation plants
 Electronics
 Engines (including rebuilding)
 Food processing
 Furniture
 Hemp products
 Jute products
 Laundries
 Leather products
 Machinery
 Metals
 Millwork (sash & door)
 Motion pictures and television filming (without spectators)
 Musical instruments
 Optical goods
 Paper mills or products
 Photographic film
 Plastic products
 Printing or publishing
 Recreational vehicles
 Refuse incineration
 Shoes
 Soaps and detergents
 Textiles
 Tobacco
 Trailers
 Upholstering
 Wood; distillation
 Woodworking (cabinet

306.3 (IFC [B] 202) Factory Industrial F-2 Low-hazard Occupancy. Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials which during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following:

Beverages; up to and including ~~42-~~ 16-percent alcohol content
 Brick and masonry
 Ceramic products
 Foundries
 Glass products
 Gypsum
 Ice
 Metal products (fabrication and assembly)

311.3 (IFC [B] 202) Low-hazard storage, Group S-2. Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:

- Aircraft hangar
- Asbestos
- Beverages up to and including ~~42-~~ 16-percent alcohol in metal, glass or ceramic containers
- Cement in bags
- Chalk and crayons
- Dairy products in nonwaxed coated paper containers
- Dry cell batteries
- Electrical coils
- Electrical motors
- Empty cans
- Food products
- Foods in noncombustible containers
- Fresh fruits and vegetables in nonplastic trays or containers
- Frozen foods
- Glass
- Glass bottles, empty or filled with noncombustible liquids
- Gypsum board
- Inert pigments
- Ivory
- Meats
- Metal cabinets
- Metal desks with plastic tops and trim
- Metal parts
- Metals
- Mirrors
- Oil-filled and other types of distribution transformers
- Parking garages, open or enclosed
- Porcelain and pottery
- Stoves
- Talc and soapstones
- Washers and dryers

Reason: I am proposing a change and an alternative, and I will try and explain both.

I am part owner in a small startup winery and we are hoping to relocate into part of an older existing downtown building. For us getting the code change would allow us to build a 2 hour fire wall, opposed to a 3 hour fire wall required by the F-1, moderate hazard class for liquids 12% alcohol and above.

The 12% was a relatively arbitrary number. I spoke with William Stuart the architect who submitted the change to allow up to 12% from the 0% that it was prior to 2000. He stated that not being a avid wine drinker he had simply reached in to the cupboard and pulled out a bottle of Gallo and it listed it's alcohol at 12% and that was what he used as his standard. If his intent was to allow the production and storage of wine in the F-2 class then for the most part he failed...

In my opinion there are two other logical choices for an alcohol % limit. Twenty percent alcohol would be the first choice with 16% being the alternate. I will try to explain both. I don't know how familiar the code council is with the making of wine so I will include a very brief description of the process. In a juice adding a yeast will turn the natural sugar into alcohol. It is a self limiting process, in that most common wine yeast will die off as the alcohol raises to between 12 and 16.% (depending mostly on the type of yeast). A good dry red wine will often finish at 14 to 15 %. (And it may be a little higher at some point during the process) To reach a higher alcohol % the wine needs to be fortified by adding alcohol. Such is the case of Port style wines where brandy is added to bring the alcohol up 18 -20% which is the usual upper limit of fortified wines. I hope that explains my justification for the two higher limit proposals.

From the chart included (Flash Points of Ethanol based Water Solutions) you can see if you extrapolate 15% would be about 120 degrees F. Now it is possible that during the fermentation process the must (the juice, skin and seed solution) might approach 95 to 100 degrees F. This would typically be near the mid point of the fermentation cycle when the alcohol would be in the 8-10% range. As the process continues and must (wine) reaches the 15 % level the fermentation slows down and the temp drops to room temp (65 to 70 degrees F). Were the wine then to be fortified it is here at this temp that alcohol would be added. I might also add here that another byproduct of the fermentation process is the production of CO2 and being heavier than air it floats on top of the fermentation vats. CO2 will not support combustion, in fact one method of checking to insure the fermentation process is still working is to hold a match over the vat, as soon as the match drops below the rim of the vat it goes out.

In conclusion I have added a couple of letters that give a little insight into how an alcohol/water solution is classified as a waste product. It doesn't appear that raising the limit to 16 or 20 % significantly raises the risks in the production of wine. The 16 or 20 % alcohol is still less than the ignitability of wine with the temperatures we see in the production of wine.

I think that raising the limit would not only open up some possibilities for other wineries but also for other downtown areas where a winery might well help in their revitalization.

Cost Impact: The code change proposal will actually decrease the cost of construction.

Public Hearing Results

Committee Action:**Disapproved**

Committee Reason: Other types of beverages beyond simply wine were not addressed in the reason and the flashpoint data was not provided as noted in the reason. The committee had concerns as to how other alcohol would relate to this new classification in terms of possible unnecessary hazards posed.

Assembly Action:**None**

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Gary L. Rencehausen, Lewiston, ID, representing himself requests Approval as Submitted.

Commenter's Reason: I'm not sure how to address "other types of beverages" I would say though that simple wine would include 99 + % of the production of beverages that fall into the category of the 12 to 16 % that I'm trying to change.

Flashpoint data of ethanol based water solutions from EngineeringToolBox.com are: 135 deg. for 10% solution and 105 deg. for 20% solution this gives approximately 129 deg and 117 deg for 12 and 16 % respectively. Given that the ideal storage temp for wines is below 60 deg. and in manufacturing it is unlikely to exceed 85 deg. this seems a safe margin. The term Flashpoint brings to mind images of exploding barrels of wine. This is unlikely to happen, and it does not mean that you can heat a container of wine to 140 degrees or more and toss in a match and it will burn. It is theoretically possible that if you had a closed container half full of wine and heated it up you could collect enough alcohol to flash if a flame was introduced, but it would not burn. Barrels and tanks are kept full (air is not good to wine) so there is no room to collect vaporizing alcohol. Even in an open container the vaporizing alcohol is most likely to dissipate and dilute in the air before it would flash. This proposal is a reasonable and prudent change with a minimum risks to life and health safety issues.

Public Comment 2:

Maureen Traxler, City of Seattle Department of Planning and Development, requests Approval as Submitted.

Commenter's Reason: This is a modest proposal that would ease an unnecessarily restrictive provision. It changes the threshold at which beverages are classified as F-1 or S-1 from 12% to 16% alcohol content. There is very little fire hazard from beverages with alcohol content this low.

This change would only affect regular wines. The highest alcohol content in unfortified wines is found in premium red wines which have alcohol content under 15%. Fortified and port-style wines have a higher alcohol content because brandy or other distilled beverages have been added to them. Brandy is distilled wine with an alcohol content of 40% or more, similar to whiskey.

G27-07/08, which raises the alcohol content to 20%, would include fortified wines. We encourage disapproval of G27, not because of the wine, but because of the amount of higher-alcohol content liquids that are present during the production of fortified wines.

Final Hearing Results

G26-07/08**AS**

Code Change No: G28-07/08

Original Proposal

Sections: [F] 307.1 (IFC 202)**Proponent:** Robert J Davidson, Davidson Code Concepts, LLC, representing himself

THIS PROPOSAL IS ON THE AGENDA OF THE IFC CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THE IFC CODE DEVELOPMENT COMMITTEE.

Revise as follows:

[F] 307.1 (IFC 202) (Supp) High-hazard Group H. High-hazard Group H occupancy includes, among others the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 414, based on the maximum allowable quantity limits for control areas set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*.

Exceptions: The following shall not be classified as Group H, but shall be classified as the occupancy that they most nearly resemble.

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.
2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.
3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers or 1-hour horizontal assemblies or both.
5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
6. Liquor stores and distributors without bulk storage.
7. Refrigeration systems.
8. The storage or utilization of materials for agricultural purposes on the premises.
9. Stationary batteries utilized for facility emergency power, uninterrupted power supply or telecommunication facilities, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the *International Mechanical Code*.
10. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
11. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.
12. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 414.2.5.
13. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.
14. Canopies used to shelter dispensing operations where flammable compressed gases are located on the roof of the canopy, provided that such canopies comply with Section 406 and the *International Fire Code*.

Reason: Section 307.1 Applies to buildings or structures. A canopy at a motor fuel-dispensing facility is a structure. This proposed code change is intended to clarify that canopies that are used to shelter dispensing operations where flammable compressed gases are located on the roof of the canopy should not be classified in Group H.

The need for this clarification was identified during a “Hydrogen Fueling Station Permitting Workshop” held on July 10, 2007 that was co-sponsored by the United States Department of Energy and the National Association of State Fire Marshals. Building and fire code officials participating in the workshop believe the plain language of Section 307.1 would require classifying the canopy, (which is enclosed at the roof line on four sides), as an H Group structure, and that an exception should be added as clarification.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

This code change was heard by the IFC Code Development Committee.

Committee Action:

Approved as Modified

Modify the proposal as follows:

[F] 307.1 (IFC 202) (Supp) High-hazard Group H. High-hazard Group H occupancy includes, among others the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 414, based on the maximum allowable quantity limits for control areas set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*.

Exceptions: The following shall not be classified as Group H, but shall be classified as the occupancy that they most nearly resemble:

1. through 13. (No change)
14. Canopies used to shelter dispensing operations where ~~flammable~~ compressed hydrogen gases are located on the roof of the canopy, provided that such canopies comply with Section 406 and the *International Fire Code*.

Committee Reason: The proposal was approved because the committee felt that it provides clarification that weather shelter canopies that store hydrogen gas on their roofs at gaseous motor-fuel dispensing facilities do not create a Group H occupancy. The modification further clarifies the intent of the exception that it applies only to hydrogen, a lighter-than-air flammable gas, and not to all flammable gases.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Jeffrey Shapiro, International Code Consultants and Robert J. Davidson, Davidson Code Concepts, LLC, representing themselves, request Approval as Modified by this public comment.

Further modify proposal as follows:

[F] 307.1 (IFC 202) (Supp) High-hazard Group H. High-hazard Group H occupancy includes, among others the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 414, based on the maximum allowable quantity limits for control areas set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*.

Hazardous materials stored or used on top of roofs or canopies shall be classified as outdoor storage or use and shall comply with the *International Fire Code*.

Exceptions: The following shall not be classified as Group H, but shall be classified as the occupancy that they most nearly resemble:

1. through 13. (No change)
14. ~~Canopies used to shelter dispensing operations where compressed hydrogen gases are located on the roof of the canopy, provided that such canopies comply with Section 406 and the *International Fire Code*.~~

Commenter's Reason: It was never the intent of the code to assign a Group H occupancy classification to rooftop or canopy top storage, and by providing an exception to the Group H occupancy classification for hydrogen fuel in such conditions, the implication is that any other material in a similar situation would trigger Group H. To fix this problem, the exception text has been relocated to the main paragraph, and the text has been broadened to clarify the intent of the code for all such storage or use, not just hydrogen.

Final Hearing Results

G28-07/08

AMPC

Code Change No: **G30-07/08**

Original Proposal

Sections: 308.3 (IFC [B] 202), 308.3.1(IFC [B] 202)

Proponent: Roger Severson, RSA Consulting, representing the Oregon Department of Health Services

1. Revise as follows:

308.3 (IFC [B] 202) Group I-2. This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing or custodial care ~~on a 24-hour basis for more than five~~ persons who are not capable of self-preservation. This group shall include, but not be limited to, the following:

Hospitals
Nursing homes (~~both intermediate care facilities and skilled nursing facilities~~)
Mental hospitals
Detoxification facilities

~~A facility such as the above with five or fewer persons shall be classified as Group R-3 or shall comply with the International Residential Code.~~

2. Revise as follows:

308.3.1 (IFC [B] 202) Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

CHILD CARE FACILITY FACILITIES. A Child care facility facilities that provides care on a 24-hour basis to more than five children, 2¹/₂ years of age or less, shall be classified as Group I-2.

DETOXIFICATION FACILITY. Detoxification facilities serve patients who are provided treatment for substance abuse on a 24-hour basis and who are incapable of self-preservation or who are harmful to others.

HOSPITALS AND MENTAL HOSPITALS. A building or portion thereof used on a 24-hour basis for the medical, psychiatric, obstetrical, or surgical treatment of inpatients who are incapable of self-preservation.

NURSING HOMES. Nursing homes are long-term care facilities on a 24-hour basis, including both intermediate care facilities and skilled nursing facilities, serving more than five persons and any of the persons are incapable of self-preservation.

Reason: (Note: Sections 308.1 and 308.2 are unchanged. Section 308.3 is amended for greater conformity of specific facility functions by moving the "hourly basis" and the number of persons into definitions specific to each topic.) A new facility title has been added which works in concert with an amendment to Section 304.1, clinic-outpatient. This new facility reference is for Ambulatory Health Care Facilities and completes the package for outpatient care where patients are not capable of self-preservation.

The only existing sub-section in 308.3 is for Child Care Facilities. Because it is written to look like a defined statement, it's section was changed to become a definitions section and the title and content for Child care facilities was added to the new list of definitions. The reference to R-3 is deleted because I-2 health care facilities, such as these, are not legally capable of operating in R-3 occupancies, regardless of the number of patients.

Cost Impact For facilities abiding by the requirements for federal funding, or for those areas who are modifying the code in a similar respect, the code change proposal will not increase the cost of construction.

However, for areas where outpatient clinics are allowed to provide services that would render patients incapable of self-preservation and be classified as a B occupancy, there would be an increase to the cost of construction.

Additionally, when a facility is not built to the standards required to receive federal funding, and they would then choose to become certified, another additional cost could be imposed upon the facility.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

DETOXIFICATION FACILITY. Detoxification facilities serve patients who are provided treatment for substance abuse on a 24-hour basis and who are incapable of self-preservation or who are harmful to themselves or others.

(Portions of proposal not shown remain unchanged)

Committee Reason: This proposal will help to better determine the types of facilities during the plan review process. The modification further clarifies that detoxification facilities focus on not only the patients possibly harming others but also focuses on the fact that they may be a harm to themselves.

Assembly Action:

None

Final Hearing Results

G30-07/08

AM

Code Change No: **G36-07/08**

Original Proposal

Sections: 310.1 (IFC [B] 202)

Proponent: Tom Lariviere, Fire Department, Madison, MS, representing the Joint Fire Service Review Committee

Revise as follows:

310.1 (IFC [B] 202) (Supp) Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code* in accordance with Section 101.2. Residential occupancies shall include the following:

R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

- Boarding houses (transient)
- Hotels (transient)
- Motels (transient)

Congregate living facilities (transient) with 10 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

- Apartment houses
- Boarding houses (not transient)
- Convents
- Dormitories
- Fraternities and sororities
- Hotels (nontransient)
- Live/work units
- Monasteries
- Motels (nontransient)
- Vacation timeshare properties

Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

- Buildings that do not contain more than two dwelling units.
- Adult care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
- Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.
- Congregate living facilities with 16 or fewer persons.

Adult care and child care facilities that are within a single-family home are permitted to comply with the *International Residential Code*

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code, ~~or shall comply with the *International Residential Code*.~~

Exception: Facilities complying with the *International Residential Code* need not meet the construction requirements of a Group R-3 provided that the building is protected by an automatic extinguishing system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Reason: R-4 occupancies can house residents who cannot evacuate within a reasonable amount of time. This change would restrict builders from using the less restrictive IRC unless the home is equipped with a fire sprinkler system. This proposal will require a fire sprinkler system in all R-4 occupancies. A fire sprinkler system is required by federal regulations for any of these facilities that may also be licensed.

Cost Impact: This proposal will increase the cost of construction, unless the facility is also desiring compliance with federal regulations.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code or shall comply with the *International Residential Code* provided the building is protected by an automatic extinguishing system installed in accordance with Section 903.2.7

~~**Exception:** Facilities complying with the *International Residential Code* need not meet the construction requirements of a Group R-3 provided that the building is protected by an automatic extinguishing system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The proposal was approved based upon the proponent's reason which is concerned with the lifesafety of occupants in Group R-4 occupancies this relates to both their ability to evacuate quickly and the number of occupants. The modification is felt to be cleaner language than the currently proposed exception. The meaning of the language is the same. There were some concerns expressed by committee members that proper justification for requiring sprinklers was not provided by the proponent.

Assembly Action:

None

Final Hearing Results

G36-07/08

AM

Code Change No: G46-07/08

Original Proposal

Sections: [F] 403.2.1 (New), 403.2.1.1 (New), [F] 403.2.1.1.1 (New), [F] 403.2.1.2 (New), [F] 403.2.2 (New) [IFC 914.3.1.1 (New), IFC 914.3.1.1.1 (New), IFC 914.3.1.1.1.1 (New), IFC 914.3.1.1.2 (New), IFC 914.3.1.2 (New); IFC 509.1 (IBC [F] 911.1)

Proponent: Gary Lewis, Chair, representing the ICC Ad Hoc Committee on Terrorism Resistant Buildings

1. Add new text as follows:

[F] 403.2.1 (IFC 914.3.1.1) Sprinkler riser redundancy and isolation. All buildings that are more than 420 feet (128 m) in height shall have all risers supplying automatic sprinkler systems interconnected to each other at the top and bottom most floor of each vertical riser zone. The interconnections shall be at least as large as the largest riser supplied.

[F] 403.2.1.1 (IFC 914.3.1.1.1) Number of risers and separation. A minimum of two sprinkler water supply risers shall be provided in each vertical riser zone of the building. Sprinkler water supply risers shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the sprinkler water supply risers.

[F] 403.2.1.1.1 (IFC 914.3.1.1.1.1) Hydraulic design evaluations. Independent hydraulic design evaluations shall be completed utilizing individual water supply risers for each vertical riser zone. System hydraulic design shall not be based upon redundancy of water supply risers for each vertical riser zone.

[F] 403.2.1.2 (914.3.1.1.2) Control valves. Manual and remote control valves shall be provided on all riser piping supplying automatic sprinkler systems at every third floor of the building served. This requirement is independent of sprinkler floor control valves required by Section 903.4.3

[F] 403.2.2 (IFC 914.3.1.2) Water supply to required fire pumps. Required fire pumps shall draw from a minimum of two independent street level water mains located in different streets.

Exception: When the street level water main is a looped or gridded system, two taps may be drawn from the same main provided the main is valved such that an interruption on one side of the loop or grid can be isolated so that the water supply will continue without interruption through at least one of the taps. Each tap shall be sized to supply the required flow. The taps shall be located as remote from one another as is practicable given the site conditions.

2. Revise as follows:

IFC 509.1 (IBC [F] 911.1) (Supp) Features. Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the *International Building Code* or horizontal assembly constructed in accordance with Section 711 of the *International Building Code*, or both. The room shall be a minimum of 96 square feet (9 m²) with a minimum dimension of 8 feet (2438 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighter=s control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Elevator fire recall switch in accordance with ASME A17.1.
17. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.
18. Controls and status indicators for remote control valves on vertical sprinkler/standpipe risers

Reason: The purpose of this proposed change is to increase the reliability of fire suppression systems in very tall buildings, those that exceed 420 feet in height, by requiring looping of sprinkler uses and independent street-level water feeds.

The difficulty of fighting fires in very tall buildings ranges from hard to virtually impossible. Accordingly, the reliable functioning of required sprinkler systems is critically important. The National Institute of Standards and Technology (NIST) World Trade Center (WTC) Report documented that the proximate cause of the collapse was a building contents fire that raged out of control, in part at least, because the building's fire sprinkler systems were non-functional due to the initial aircraft attack. Events far less dramatic could knock out or make a sprinkler riser inoperative, thereby leaving the structure very vulnerable to fire.

Recommendation 12 of the NIST WTC report calls for the redundancy of active fire suppression systems to be increased to accommodate the greater risks associated with increasing building height and population. This proposal seeks to do that by providing two water feeds to each floor designed such that the system will function as intended if one of those feeds is damaged or otherwise interrupted.

It is interesting to note that existing standards for water mains in residential subdivisions call for looping and valving to ensure that no more than 20 homes could be cut off by a water main break. Such a break would create a fire suppression risk for 4 people (the average occupancy of one home) or no more than 80 people (assuming all 20 homes catch fire). In contrast, we do not require looping and valving to isolate failure in buildings that might contain 10,000 occupants. This proposal seeks to correct that problem.

Proposed new Subsection 403.2.1 requires the interconnection (looping) of sprinkler risers in each vertical zone.

Proposed new Subsection 403.2.1.1 requires two risers for every zone and specifies a separation distance to reduce the possibility that one incident could incapacitate both risers.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Proposed new Subsection 403.2.1.1.1 ensures that the sprinkler system will be designed to function as intended and required from either riser. This is consistent with the goal of providing redundancy.

Proposed new Subsection 403.2.1.2 requires riser control valves at every third floor of the building. This provision supports the stated intent of this code change by ensuring that a riser break (or other problem eliminating the riser's functionality) will not leave more than two floors without the required sprinkler protection. Standpipe control valves are already required to be monitored and NFPA 14 requires redundancy. However, the control valves required by new section 403.2.1.2 are in addition to the control valves required by NFPA 14. Along with the redundant sprinkler riser that is required by section 403.2.1, the valves required by this new section will assure that any riser break will not leave more than two floors without the required sprinkler protection.

These new valves raise the possibility that someone will inadvertently close one or more. Accordingly, a proposed amendment to Section 911.1 of the Code requires that these automatic valves be able to be monitored from the fire command center by the use of status indicators. This will make it possible to monitor continuously all riser valves from one location and correct any problem from that location.

New Subsection 403.2.2 requires fire pumps to be fed from two independent water mains in separate streets. This will greatly reduce the possibility of the loss of water due to a main break, given the valving which is a feature of public water systems.

Bibliography:

National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

Cost Impact: This proposal will increase the cost of construction for very tall buildings, but the additional cost is warranted by the additional risk inherent in such buildings.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Fire protection system design criteria and information belong in Chapter 9. The utility and effectiveness of top and bottom sprinkler riser interconnection is questionable. It is also questionable as to the availability of remotely controlled sprinkler riser valves. Proposed Section 403.2.2 needs correlation with Section 903.3.5.2. The ICC Code Technology Committee agrees with the need for redundancy but disagrees with the approach taken in this proposal. There is also a NIST task group working on this topic.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Paul K. Heilstedt, PE, FAIA, Chair, ICC Code Technology Committee (CTC), Gerry Jones/Herman Brice, Co-chairs, NIBS/MMC Committee for Translating the NIST World Trade Center Investigation Recommendations into Building Codes and Gary Lewis, Chair, representing the ICC Ad Hoc Committee on Terrorism Resistant Buildings request Approval as Modified by this public comment.

Modify proposal as follows:

~~[F] 403.2.1 (IFC 914.3.1.1) **Number of sprinkler risers and system design redundancy and isolation.** All buildings that are more than 420 feet (128 m) in height shall have all risers supplying automatic sprinkler systems interconnected to each other at the top and bottom most floor of each vertical riser zone. The interconnections shall be at least as large as the largest riser supplied. Each sprinkler system zone in buildings that are more than 420 feet (128 m) in height shall be supplied by a minimum of two risers. Each riser shall supply sprinklers on alternate floors. If more than two risers are provided for a zone, sprinklers on adjacent floors shall not be supplied from the same riser.~~

~~[F] 403.2.1.1 (IFC 914.3.1.1.1) **Number of risers and separation.** A minimum of two sprinkler water supply risers shall be provided in each vertical riser zone of the building. Sprinkler water supply risers shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the sprinkler water supply risers.~~

~~[F] 403.2.1.1 (IFC 914.3.1.1.1) **Riser location.** Sprinkler risers shall be placed in stair enclosures which are remotely located in accordance with Section 1015.2.~~

~~[F] 403.2.1.1.1 (IFC 914.3.1.1.1.1) **Hydraulic design evaluations.** Independent hydraulic design evaluations shall be completed utilizing individual water supply risers for each vertical riser zone. System hydraulic design shall not be based upon redundancy of water supply risers for each vertical riser zone.~~

~~[F] 403.2.1.2 (914.3.1.1.2) **Control valves.** Manual and remote control valves shall be provided on all riser piping supplying automatic sprinkler systems at every third floor of the building served. This requirement is independent of sprinkler floor control valves required by Section 903.4.3~~

~~[F] 403.2.2 (IFC 914.3.1.2) **Water supply to required fire pumps.** Required fire pumps shall be supplied by connections to draw from a minimum of two independent street level water mains located in different streets. Separate supply piping shall be provided between each connection to water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.~~

Exception: When the street level water main is a looped or gridded system, two taps may be drawn from Two connections to the same main shall be permitted provided the main is valved such that an interruption on one side of the loop or grid can be isolated so that the water supply will continue without interruption through at least one of the connections taps. Each tap shall be sized to supply the required flow. The taps shall be located as remote from one another as is practicable given the site conditions.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The purpose of this public comment is to increase the reliability of fire sprinkler systems in very tall buildings, those that exceed 420 feet in height, by requiring a minimum of two risers for each sprinkler zone and pumps to be supplied by a minimum of two connections to the municipal distribution system.

The difficulty of fighting fires in very tall buildings ranges from difficult to virtually impossible with the sprinkler system impaired. Accordingly, the reliable functioning of sprinkler systems is critical. Various Events could cause a sprinkler riser to be impaired, thereby leaving the structure highly vulnerable to fire.

Recommendation 12 of the NIST WTC report calls for the redundancy of active fire suppression systems to be increased to accommodate the greater risks associated with increasing building height and population. This proposal seeks to do that by requiring two risers designed such that, if one riser is taken out of service, the other will be able to supply sprinklers on the floors above and below. This will impede any fire spread and allow the fire department time to respond and extinguish the fire. At the Meridian Plaza fire in Philadelphia, the further spread of an out of control fire occurring on floors not protected by sprinklers was prevented by the operation of ten sprinklers when the fire reached a floor which had been retrofitted with sprinklers.

403.2.1 requires a minimum of two sprinkler risers in each sprinkler zone.

403.2.1.1 requires the risers to be located in protected stair enclosures and specifies a separation distance to reduce the possibility that one incident could incapacitate both risers which is consistent with the approach used in the code for stair enclosure separation.

403.2.2 is text similar to the original proposal which requires fire pumps to be fed from two water mains in separate streets. This will greatly reduce the possibility of the loss of water due to a main break, given the valving which is a feature of public water systems with the goal of providing redundancy. The exception is revised to provide performance language which is not specific to a specific configuration (looped or gridded in the original proposal) and eliminates the subjective connection remoteness criteria.

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April/2005, the CTC has held fifteen meetings - all open to the public. This public comment is a result of the CTC's investigation of the area of study entitled "NIST World Trade Center Recommendations". The CTC web page for this area of study is: <http://www.iccsafe.org/cs/cc/ctc/WTC.html>

Final Hearing Results

G46-07/08

AMPC

Code Change No: G48-07/08

Original Proposal

Sections: 403.3.1, 403.3.2, 507.8, 3310.1 (IFC [B] 1411.1)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

403.3.1 (Supp) Type of construction. The following reductions in the minimum fire resistance rating of the building elements in Table 601 shall be permitted as follows:

1. For buildings not greater than 420 feet (128 m) in building height, the fire resistance rating of the building elements in Type IA construction shall be permitted to be reduced to the minimum fire resistance ratings for the building elements in Type IB.

Exception: The required fire-resistance rating of columns supporting floors shall not be permitted to be reduced.

2. In other than Groups F-1, M and S-1, the fire resistance rating of the building elements in Type IB construction shall be permitted to be reduced to the fire resistance ratings in Type IIA.
3. The height and area limitations of a building containing building elements with reduced fire resistance ratings shall be permitted to be the same as the building without such reductions.

403.3.2 Shaft enclosures. For buildings not greater than 420 feet (128 m) in building height, the required fire-resistance rating of the fire barriers enclosing vertical shafts, other than exit enclosures and elevator hoistway enclosures, shall be reduced to 1 hour where automatic sprinklers are installed within the shafts at the top and at alternate floor levels.

507.8 (Supp) Aircraft paint hangar. The area of a Group H-2 aircraft paint hangar no more than one-story above grade plane, shall not be limited where such aircraft paint hangar complies with the provisions of Section 412.4 and is entirely surrounded by public ways or yards not less in width than one and one-half times the ~~height of the building~~ height.

3310.1 (IFC [B] 1411.1) Stairways required. Where a building has been constructed to a building height ~~greater than~~ of 50 feet (15 240 mm) or four stories, or where an existing building exceeding 50 feet (15 240 mm) in building height is altered, at least one temporary lighted stairway shall be provided unless one or more of the permanent stairways are erected as the construction progresses.

Reason: The changes are proposed for consistency with the actions taken by the membership on Proposal G81-06/07-AS. In IBC Section 3310.1 and IFC Section 1411.1, “greater than” is changed to “of” because “constructed to a building height of 50 feet” adequately specifies the threshold before a temporary lighted stairway is required. A related proposal adjusts the references to “height” and “building height” in Chapter 5.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The change would coordinate with G81-06/07. The additional language clarifies the application of the definition for “building height.”

Assembly Action:

None

Final Hearing Results

G48-07/08

AS

2006 INTERNATIONAL FIRE CODE DOCUMENTATION IBC - MEANS OF EGRESS

Code Change No: **E5-07/08**

Original Proposal

Sections: 1002.1 (IFC [B] 1002.1)

Proponent: Gerard Hathaway, New York State Department of State Building Codes Division, representing himself

Revise definitions as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

BLEACHERS. Tiered seating facilities supported on a dedicated structural system and two or more rows high and is not a building element (see Grandstands).

FOLDING AND TELESCOPIC SEATING. Tiered seating facilities having an overall shape and size that are capable of being reduced for purposes of moving or storing and is not a building element.

GRANDSTAND. Tiered seating facilities supported on a dedicated structural system and two or more rows high and is not a building element (see Bleachers).

Reason: : Bleachers, Grandstands and Folding and Telescopic Seating are addressed in ICC 300. The 2007 edition has been approved as the referenced document for the 2009 IBC. The definitions should be coordinated in both documents so that it is clear when the standard is applicable.

The definitions in the current IBC were submitted by the ICC 300 Development Committee in E68-02 and were based on the definitions in the 2002 edition of the ICC 300.

The purpose of the revised definition is to clarify that bleachers and grandstands are limited to items that are separate, independent structures from the buildings that they may be constructed within or from spaces constructed under or over (e.g. concessions booths, toilets, roofs). The ICC 300 is not intended to be utilized for single row seating that is supported directly by the floor system. . "And is not a building element" is proposed to be added to the three definitions to address the concerns that were expressed during last year's testimony that the proposed definitions needed this additional clarification. This definition for "building element" was added by FS4-07/08.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The revised definitions clarify applicability and coordinates with Standard ICC 300 *Bleachers, Grandstands and Folding and Telescopic Seating*.

Assembly Action:

None

Final Hearing Results

E5-07/08

AS

Code Change No: **E7-07/08**

Original Proposal

Sections: 1002.1, 1020.1.1, 1021.4 (IFC [B] 1002.1, [B] 1020.1.1, [B] 1021.4)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

EXIT. That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ground level, exit enclosures, exit passageways, exterior exit ~~stairs~~ stairways, exterior exit ramps and horizontal exits.

EXIT PASSAGEWAY. An exit component that is separated from ~~all~~ other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to the exit discharge or the public way.

1020.1.1 (IFC [B] 1020.1.1) Openings and penetrations. Exit enclosure opening protectives shall be in accordance with the requirements of Section 715.

~~Except as permitted in Section 402.4.6, openings~~ Openings in exit enclosures other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.

Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly ~~conforming to~~ complying with the requirements in Section 715.4. Fire door assemblies in exit enclosures shall comply with Section 715.4.4.

Elevators shall not open into an exit enclosure.

1021.4 (IFC [B] 1021.4) Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

~~Except as permitted in Section 402.4.6, openings~~ in exit passageways other than ~~unexposed~~ unprotected exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly conforming to ~~complying with~~ the requirements in Section 715.4. Fire door assemblies in exit passageways shall comply with Section 715.4.4.

Elevators shall not open into an exit passageway.

Reason: The purpose for this proposal is primarily editorial and was prepared in conjunction with related proposals on definitions of the means of egress components, the technical provisions for smokeproof enclosures and pressurized stairways, and exit passageways used to extend exit enclosures to an exit discharge or a public way. In the definition for “exit” in Section 1002.1, exterior exit “stairs” is changed to “stairways” for consistency with the provisions of Section 1022 on exterior exit ramps and stairways. In the definition for “exit passageway” in Section 1002.1, “all” is deleted for consistency with similar language in the definition for “exit enclosure and to eliminate what is judged to be superfluous.

The reference to Section 402.4.6 in the second paragraph of Section 1020.1.1 is deleted because it is not applicable to exit enclosures. Section 402.4.6 applies to service areas opening into exit passageways in covered mall buildings and is appropriately referenced in the second paragraph of Section 1021.4 on exit passageways.

In the third paragraph of Sections 1020.1.1 and 1021.4, “conforming to” is changed to “complying with” to eliminate nonmandatory language. In the second paragraph of Section 1021.4, “unexposed” is changed to “unprotected” for consistency with similar language in the second paragraph of Section 1020.1.1 and to eliminate a term that is vague and unenforceable. In the third paragraph of Section 1021.4, “fire door” is changed to “fire door assembly” for consistency with similar language in the third paragraph of Section 1020.1.1 and with the reference to “door assembly” in the same sentence of each code section.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1021.4 (IFC [B] 1021.4) Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than ~~unprotected~~ exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly complying with the requirements in Section 715.4. Fire door assemblies in exit passageways shall comply with Section 715.4.4.

Elevators shall not open into an exit passageway.

(Portions of proposal not shown remain unchanged)

Committee Reason: The further modification to Section 1021.4 was to delete 'unprotected'. The topic is exterior openings, therefore, this is a fire separation distance issue, so deleting the current term 'unexposed' as well as the proposed 'unprotected' is more consistent with the language in the code. The entire proposal was approved because consistency between Sections 1020 and 1021.

Assembly Action:

None

Final Hearing Results

E7-07/08

AM

Code Change No: E8-07/08

Original Proposal

Sections: 405.1, 405.4.1, 405.8.2, 1020.1.7 (IFC [B] 1020.1.7); IFC 903.2.1, 907.2.18 (IBC [F] 903.2.1, [F] 907.2.18); IEBC 705.4.3.1, 705.9, 705.10, 803.1

Proponent: Marshall A. Klein, Marshall A. Klein & Associates, Inc

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS, IFC AND THE IEBC CODE DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

Revise as follows:

**SECTION 405
UNDERGROUND BUILDINGS**

405.1 (Supp) General. The provisions of this section apply to building spaces having a floor level used for human occupancy more than 30 feet (9144 mm) below the finished floor of the lowest level of exit discharge.

Exceptions:

1. One- and two-family dwellings, sprinklered in accordance with Section 903.3.1.3.
2. Parking garages with automatic sprinkler systems in compliance with Section 405.3.
3. Fixed guideway transit systems.
4. Grandstands, bleachers, stadiums, arenas and similar facilities.

5. Where the lowest story is the only story that would qualify the building as an underground building and has an area not exceeding 1,500 square feet (139 m²) and has an occupant load less than 10.
6. Pumping stations and other similar mechanical spaces intended only for limited periodic use by service or maintenance personnel.

405.4 Compartmentation. Compartmentation shall be in accordance with Sections 405.4.1 through 405.4.3.

405.4.1 Number of compartments. A building having a floor level more than 60 feet (18 288 mm) below the finished floor of the lowest level of exit discharge shall be divided into a minimum of two compartments of approximately equal size. Such compartmentation shall extend through the highest level of exit discharge serving the underground portions of the building and all levels below.

Exception: The lowest story need not be compartmented where the area does not exceed 1,500 square feet (139 m²) and has an occupant load of less than 10.

405.8.2 Smokeproof enclosure. Every required stairway serving floor levels more than 30 feet (9144 mm) below the finished floor of its level of exit discharge shall comply with the requirements for a smokeproof enclosure as provided in Section 1020.1.7.

1020.1 (IFC [B] 1020.1) (Supp) Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1. The stairway is open to not more than one story above ~~the story at~~ the level of exit discharge; or
 - 1.2. The stairway is open to not more than one story below ~~the story at~~ the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
6. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1025.5.1, are not required to be enclosed.

1020.1.7 (IFC [B] 1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the finished floor of the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

PART II – IFC

Revise as follows:

903.2.1 (IBC [F] 903.2.1) (Supp) Group A. An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. For Group A-1, A-2, A-3 and A-4 occupancies, the automatic sprinkler system shall be provided throughout the floor area where the Group A-1, A-2, A-3 or A-4 occupancy is located, and in all floors ~~between from~~ the Group A occupancy ~~and to, and including,~~ the nearest level of exit discharge serving the Group A occupancy. For Group A-5 occupancies, the automatic sprinkler system shall be provided in the spaces indicated in Section 903.2.1.5.

907.2.18 (IBC [F] 907.2.18) (Supp) Deep underground buildings. Where the lowest level of a structure is more than 60 feet (18 288 mm) below the finished floor of the lowest level of exit discharge, the structure shall be equipped throughout with a manual fire alarm system, including an emergency voice/alarm communication system installed in accordance with Section 907.6.2.2.

PART III – IEBC

Revise as follows:

705.4.3.1 Supplemental requirements for door closing. Where the work area exceeds 50 percent of the floor area, doors shall comply with Section 705.4.3 throughout the exit stair from the work area to, and including, the level of exit discharge.

705.9 Handrails. The requirements of Section 705.9.1 and 705.9.2 shall apply to handrails from the work area floor to, and including, the level of exit discharge.

705.10 Guards. The requirements of Sections 705.10.1 and 705.10.2 shall apply to guards from the work area floor to, and including, the level of exit discharge but shall be confined to the egress path of any work area.

803.1 Existing shafts and vertical openings. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 703.2.1 ~~between~~ from the highest work area floor to, and including, the level of exit discharge and all floors below.

Reason: This code proposal is intended to be editorial in nature. My approved code proposal, E5-06/07, revised the definition of “Level of exit discharge” last cycle to read as follows:

EXIT DISCHARGE, LEVEL OF. The ~~horizontal plane located~~ story at the point at which an exit terminates and an exit discharge begins.

With the above clarification of the definition of “level of exit discharge” in the 2007 I Codes Supplement, I reviewed all instances in the I Codes for the use of “level of exit discharge” for consistency with its past intended use as follows:

1. Code provisions under Items IBC/IFC Section 903.2.1, and IEBC Section 705.4.3.1, 705.0, 705.10 and 803.1, needed revisions for clarification by adding the verbiage such as “...including...” the level of exit discharge in order to include the “level of exit discharge” since the level of exit discharge definition was changed from a “horizontal plane” to a “story”.
2. One code provision under IBC/IFC 1020.1 that needed the verbiage “...the story at...” removed since the definition of LED is now defined as a “story” and not a “horizontal plane”.
3. Code provisions under IBC 405.1, 405.4.1, 405.8.2, and IBC/IFC 907.2.19 and 1020.1.7, that needed clarification of the vertical measurement in feet to the LED when a floor is below the LED by including the verbiage “...below the finished floor of the level of exit discharge...”.

It is not my intent to change any of these existing requirements in the Code as they relate to the “level of exit discharge”. Last year’s code proposal, E5-06/07, along with this year’s revisions to the above noted code sections, will complete the correlation of the I Codes’ definition for “level of exit discharge” with the definition in NFPA 101, where the “level of exit discharge” concept originally came from.

Cost Impact: This code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action:

Approved as Submitted

Committee Reason: The proposal will correlate sections throughout the code with the definition of ‘level of exit discharge’. This would be consistent with the committee action on E5-06/07 which revised the definition.

Assembly Action:

None

PART II – IFC

Committee Action:

Approved as Submitted

Committee Reason: For consistency with the action taken by the IBC-MOE and IEBC Committees. The proposal eliminates the previously existing confusion in establishing a correct point of measurement that these sections posed.

Assembly Action:

None

PART III – IEBC

Committee Action:

Approved as Submitted

Committee Reason: This code change picks up language that correlates with a previous code change (E5-06/07) in the 2006/2007 Code Change Cycle.

Assembly Action:

None

Final Hearing Results

E8-07/08, Part I	AS
E8-07/08, Part II	AS
E8-07/08, Part III	AS

Code Change No: E10-07/08

Original Proposal

Sections: 308.5.2 (IFC [B] 202), 1006.3 (IFC [B] 1006.3), 1007.2.1 (IFC [B] 1007.2.1), 1020.1 (IFC [B] 1020.1), 1020.1.5 (IFC [B] 1020.1.5), 1020.1.7 (IFC [B] 1020.1.7), 1023.6 (IFC [B] 1023.6), 1024.1 (IFC [B] 1024.1); IFC 903.2.1.1- 903.2.1.4 (IBC [F] 903.2.1.1- 903.2.1.4), 903.2.2 (IBC [F] 903.2.2), 1027.5, 1027.18, 1027.19

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I — IBC MEANS OF EGRESS

Revise as follows:

308.5.2 (IFC [B] 202) Child care facility. A facility that provides supervision and personal care on less than a 24-hour basis for more than five children 2-1/2 years of age or less shall be classified as Group I-4.

Exception: A child day care facility that provides care for more than five but no more than 100 children 2-1/2 years or less of age, ~~when~~ where the rooms ~~where such~~ in which the children are cared for are located on ~~the~~ a level of exit discharge servicing such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

1006.3 (IFC [B] 1006.3) Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premise's electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, exit enclosures and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than ~~the~~ their levels of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1024.1, in buildings required to have two or more exits.
5. Exterior landings as required by Section 1008.1.5 for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

1007.2.1 (IFC [B] 1007.2.1) Elevators required. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with Section 1007.4.

Exceptions:

1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the levels of exit discharge.
2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a ramp conforming to the provisions of Section 1010.

1020.1 (IFC [B] 1020.1) (Supp) Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated but need not exceed 2 hours. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies other than Groups H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1. The stairway is open to not more than one story above the story at ~~the~~ its level of exit discharge, or
 - 1.2. The stairway is open to not more than one story below the story at ~~the~~ its level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
6. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1025.5.1, are not required to be enclosed.

1020.1.5 (IFC [B] 1020.1.5) Discharge identification. A stairway in an exit enclosure shall not continue below ~~the~~ its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1011.

1020.1.7 (IFC [B] 1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below ~~the~~ a level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

1023.6 (IFC [B] 1023.6) Exterior ramps and stairway protection. Exterior exit ramps and stairways shall be separated from the interior of the building as required in Section 1020.1. Openings shall be limited to those necessary for egress from normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for occupancies, other than those in Group R-1 or R-2, in buildings that are no more than two stories above grade plane where ~~the~~ a level of exit discharge servicing such occupancies is the first story above grade plane.
2. Separation from the interior of the building is not required where the exterior ramp or stairway is served by an exterior ramp and/or balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the openings no less than 7 feet (2134 mm) above the top of the balcony.

3. Separation from the interior of the building is not required for an exterior ramp or stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1020.1.
4. Separation from the interior of the building is not required for exterior ramps or stairways connected to open-ended corridors, provided that Items 4.1 through 4.4 are met:
 - 4.1. The building, including corridors and ramps and/or stairs, shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 4.2. The open-ended corridors comply with Section 1017.
 - 4.3. The open-ended corridors are connected on each end to an exterior exit ramp or stairway complying with Section 1023.
 - 4.4. At any location in an open-ended corridor where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m²) or an exterior ramp or stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
 - 1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
 - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at ~~the~~ their levels of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

PART II — IFC

Revise as follows:

903.2.1.1 (IBC [F] 903.2.1.1) Group A-1. An automatic sprinkler system shall be provided for Group A-1 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge servicing such occupancies.
4. The fire area contains a multitheater complex.

903.2.1.2 (IBC [F] 903.2.1.2) Group A-2. An automatic sprinkler system shall be provided for Group A-2 occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464.5m²).
2. The fire area has an occupant load of 100 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge serving such occupancies.

903.2.1.3 (IBC [F] 903.2.1.3) Group A-3. An automatic sprinkler system shall be provided for Group A-3 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge serving such occupancies.

Exception: Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.

903.2.1.4 (IBC [F] 903.2.1.4) Group A-4. An automatic sprinkler system shall be provided for Group A-4 occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than ~~the~~ a level of exit discharge serving such occupancies.

Exception: Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.

903.2.2 (IBC [F] 903.2.2) (Supp) Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 20,000 square feet (1858 m²) in area.
2. Throughout every portion of educational buildings below the lowest level of exit discharge ~~that serves~~ serving that portion of the building.

Exception: An automatic sprinkler system is not required in any ~~fire area or~~ area below the lowest level of exit discharge serving that area where every classroom throughout the building has at least one exterior exit door at ground level.

1027.5 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.

Exception: Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.

2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below ~~the~~ a level of exit discharge serving the occupants, or buildings with 1,000 or more total occupants.
3. Group E in interior stairs, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.

Exception: Buildings used only during daylight hours which are provided with windows for natural light in accordance with the *International Building Code*.

5. Group I.
6. Group M.

Exception: Buildings less than 3,000 square feet (279 m²) in gross sales area on one story only, excluding mezzanines.

7. Group R-1.

Exception: Where each sleeping unit has direct access to the outside of the building at grade.

8. Group R-2.

Exception: Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade.

9. Group R-4.

Exception: Where each sleeping unit has direct access to the outside of the building at ground level. The emergency power system shall provide power for not less than 60 minutes and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.

1027.18 Stairway discharge identification. A stairway in an exit enclosure which continues below ~~the~~ its level of exit discharge shall be arranged and marked to make the direction of egress to a public way readily identifiable.

Exception: Stairs that continue one-half story beyond ~~the~~ their levels of exit discharge need not be provided with barriers where the exit discharge is obvious.

1027.19 Exterior stairway protection. Exterior exit stairs shall be separated from the interior of the building as required in Section 1023.6. Openings shall be limited to those necessary for egress from normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for buildings that are two stories or less above grade where ~~the~~ a level of exit discharge servicing such occupancies is the first story above grade.
2. Separation from the interior of the building is not required where the exterior stairway is served by an exterior balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the opening not less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the interior of the building is not required for an exterior stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1020.1.
4. Separation from the interior of the building is not required for exterior stairways connected to open-ended corridors, provided that:
 - 4.1. The building, including corridors and stairs, is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 4.2. The open-ended corridors comply with Section 1017.
 - 4.3. The open-ended corridors are connected on each end to an exterior exit stairway complying with Section 1023.1.
 - 4.4. At any location in an open-ended corridor where a change of direction exceeding 45 degrees occurs, a clear opening of not less than 35 square feet (3 m²) or an exterior stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

Reason: This proposal is a continuation of Proposal F85-07/08-AMPC1. The reason statement accompanying the proposal pointed out that buildings on sloping sites often have more level of exit discharge. The proposal addressed references to “the level of exit discharge” in IFC Sections 903.2.1 and 903.2.2 but there are other sections in the IBC and IFC that contain the identical phrase. The purpose of this proposal is to adjust the phrase in those sections so that buildings with multiple levels of exit discharge are clearly accounted for while still preserving the current intent of their provisions.

“The” level of exit discharge in the Exception for child care facilities in IBC Section 308.5.2 and IFC Section 202 is changed to “a” level of exit discharge “servicing such rooms.” The change in occupancy classification from Group I-4 to Group E is dependent on the rooms used for the care of children being located on the level of exit discharge. The change will permit the rooms to be located on one of the levels of exit discharge serving the rooms. The other revisions are editorial, changing “when” to “where” in referring to the rooms providing the day care.

“The” level of exit discharge in Exception #1 to IBC Section 1007.2.1 on elevators as accessible means of egress is changed to the “levels” of exit discharge. An elevator is required to be an accessible means of egress where the building is four or more stories above or below one of the levels of exit discharge. The change will make it clear that the elevator exemption is limited to floors at or above all the levels of exit discharge (i.e., prevent compliance based only on the higher of two levels of exit discharge). Note that “a” level of exit discharge is cited in the charging language and is unchanged in this proposal.

“The” level of exit discharge in IBC Section 1020.1.7 on smokeproof enclosures is changed to “a” level of exit discharge serving such floor levels. In high-rise and underground buildings, each exit serving a story whose floor surface is more than 30 feet below the level of exit discharge (one of two conditions) serving the story is required to be a smokeproof enclosure or pressurized stairway. The change will make it clear that the requirement applies to exits whose floor surfaces are more than 30 feet below any of the levels of exit discharge serving that story (i.e., prevent compliance based only on the higher of two levels of exit discharge).

“The” level of exit discharge in Exception #1 to IBC Section 1023.6 on protection of exterior ramps and stairways is changed to “a” level of exit discharge “servicing such occupancies.” Separation of exterior ramps and stairways from occupancies other than Group R-1 or R-2 is not required in buildings that are no more than two stories above grade plane where the level of exit discharge is the first story above grade plane. The change will permit the occupancies to be located on one of the levels of exit discharge serving the occupancies.

“The” level of exit discharge in Item #3 of IFC Sections 903.2.1.1, 903.2.1.2, 903.2.1.3 and 903.2.1.4 on automatic sprinkler systems in Group A occupancies is changed to “a” level of exit discharge “serving such occupancies.” One of the three conditions for requiring an automatic sprinkler system in a Group A occupancy other than Group A-5 is that the fire area is located on a floor other than the level of exit discharge. The change will exempt the occupancy from the requirement provided it is located on a floor other than one of the levels of exit discharge serving the occupancy. Note that “the” level of exit discharge of the main entrance and exit is cited in the Exception to Sections 903.2.1.3 and 903.2.1.4 but is unchanged in this proposal.

The “level” of exit discharge in the Exception to IFC Section 903.2.2 on automatic sprinkler systems in Group E occupancies is changed to the “lowest” level of exit discharge “serving that area” for consistency with the requirement in Item #2 for which the Exception modifies. “Fire area” is deleted because it is seen as superfluous. The Exception currently applies to “areas” below the level of exit discharge, which include “fire areas.” Note that Item #2 of Section 903.2.2 specifies the “lowest level of exit discharge that serves that portion of the building” and is unchanged in this proposal except for an editorial change for consistency with the proposed change to the Exception.

The “level of exit discharge” in the Exception to IFC Section 1027.5 on emergency power for egress illumination is changed to “a” level of exit discharge “serving the occupants.” One of the conditions for requiring emergency power for egress illumination in existing buildings is that there are 100 or more occupants above or below the level of exit discharge. The change will exempt the building from the requirement provided there are less than 100 occupants above and below any of the levels of exit discharge serving any of the occupants (i.e., prevent compliance based only on the higher level of exit discharge for occupants below or the lower level of exit discharge for occupants above).

“The” level of exit discharge in Exception #1 to IFC Section 1027.19 on exterior stairway protection is changed to “a” level of exit discharge “serving such occupancies.” Separation of exterior stairways from the interior is not required in buildings that are no more than two stories above grade when the level of exit discharge is the first story above grade. The change will permit the occupancies to be located on one of the levels of exit discharge serving the occupancies.

The provision of IBC Sections 1006.3 (Item 3); 1020.1 (Exception 1, Items 1.1 and 1.2); 1020.1.5; and 1024.1 (Exception 3); and IFC Section 1027.18 typically apply to exit stairways and other means of egress components with distinct levels of exit discharge. Multiple levels of exit discharge are not possible. The building, however, could have multiple levels of exit discharge. Consequently, “the” level of exit discharge is changed to “its level” or “their levels” of exit discharge depending on the context.

IBC Sections 405.1, 405.3, 405.4.1 and 405.8.2; IFC Table 405.2; and IFC Sections 404.2, 903.2.1, 907.2.2, 907.2.4, 907.2.7, 907.2.9.1, 907.2.18, 907.2.18.1 and 914.5.1; are not included in this proposal because they reference the lowest, highest or nearest level of exit discharge. IBC Section 1019.2 (Item 3) is not included because the subject of the provision is a single-level building.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action:

Approved as Submitted

Committee Reason: The revision clarifies how to use the definitions for ‘level of exit discharge’ and ‘exit discharge.’ The revisions in E8-07/08 to Section 1020.1, Exp 1.1 and 1.2 would still be applicable.

Assembly Action:

None

PART II – IFC

Committee Action:

Approved as Submitted

Committee Reason: For consistency with the action taken by the IBC-MOE Committee on Part I of this proposal and to provide correlation between the IBC Chapter 10 and the IFC egress provisions for existing buildings. The changes add clarity to the provisions.

Assembly Action:

None

Final Hearing Results

E10-07/08, Part I	AS
E10-07/08, Part II	AS
E10-07/08, Part III	AS

Code Change No: E11-07/08

Original Proposal

Sections: 1003.2 (IFC [B] 1003.2)

Proponent: John Berry, Cole + Russell Architects, Inc.

Revise as follows:

1003.2 (IFC [B] 1003.2) (Supp) Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1009.2.
5. Door height in accordance with Section 1008.1.1.
6. Ramp headroom in accordance with Section 1010.5.2.
7. The clear height of floor levels in vehicular and pedestrian traffic areas in parking garages in accordance with Section 406.2.2.

Reason: The intent of this proposal is to coordinate the new ceiling height requirements of this section with the clear floor height allowed in parking garages per Section 406.2.2. Without this exception, it can easily be interpreted that the clear floor height in parking garages is to be 7'-6". I have solicited the opinion of the ICC Staff on this issue and have received a response that Section 406.2.2 should be considered for this issue in parking garages.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal correlates with the height for means of egress throughout parking garages. This is not a conflict with ICC A117.1 because of the reference in Section 406.2.2 for the accessible portion of the parking garage.

Assembly Action:

None

Final Hearing Results

E11-07/08

AS

Code Change No: **E12-07/08**

Original Proposal

Sections: 1003.2 (IFC [B] 1003.2)

Proponent: Maureen Traxler, City of Seattle, representing Washington Association of Building Officials Technical Code Development Committee

Revise as follows:

1003.2 (IFC [B] 1003.2) (Supp) Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1009.2.
5. Door height in accordance with Section 1008.1.1.
6. Ramp headroom in accordance with Section 1010.5.2.
7. Areas above and below mezzanine floors in accordance with Section 505.1.

Reason: This proposal resolves an inconsistency between Section 505.1 and 1003.2. The mezzanine provisions of Section 505.1 allow a ceiling height of 7 feet, but 1003.2 requires ceiling height of 7 feet 6 inches throughout the means of egress, which includes areas above and below mezzanines.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal correlates with the height for mezzanines. There is no need to supersede the provision for a whole floor based on means of egress and the proposed additional exception clarifies that.

Assembly Action:

None

Final Hearing Results

E12-07/08

AS

Code Change No: **E13-07/08**

Original Proposal

Sections: 1003.5 (IFC [B] 1003.5)

Proponent: John Williams, Washington State Department of Health, Construction Review Services, representing Washington Association of Building Officials Technical Code Development Committee

Revise as follows:

1003.5 (IFC [B] 1003.5) Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the means of egress, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-percent slope), ramps complying with Section 1010 shall be used. Where the difference in elevation is 6 inches (152 mm) or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials.

Exceptions:

1. A single step with a maximum riser height of 7 inches (178 mm) is permitted for buildings with occupancies in Groups F, H, R-2, R-3, S and U at exterior doors not required to be accessible by Chapter 11.
2. A stair with a single riser or with two risers and a tread is permitted at locations not required to be accessible by Chapter 11, provided that the risers and treads comply with Section 1009.3, the minimum depth of the tread is 13 inches (330 mm) and at least one handrail complying with Section 1012 is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.
3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) at locations not required to be accessible by Chapter 11, provided that the risers and treads comply with Section 1025.11 and the aisle is provided with a handrail complying with Section 1025.13.

Any change in elevation in a corridor serving nonambulatory persons in a Group I-2 occupancy. Throughout a story in a Group I-2 occupancy, any change in elevation in portions of the exit access that serve nonambulatory persons shall be by means of a ramp or sloped walkway.

Reason: The purpose of this code change is to clarify the intent of the current code. The purpose of this section is to prevent a condition where a patient on a hospital bed or stretcher would be required to maneuver a stair or step. Quick horizontal movement of stretchers and beds is imperative during the routine operation of a healthcare facility. I-2 occupancies also use a “protect in place” concept which relies on horizontal evacuation of patient on beds and stretchers during a fire event.

Most hospitals take advantage of the suite provisions within IBC 1014.2.2, which creates passageways that are not classified as a corridors. These passageways often serve nonambulatory traffic, but the current code would not apply to them. A broader term such as “exit access” is necessary to capture all of the areas that see nonambulatory traffic. The existing qualifier “serving nonambulatory persons” remains to prevent this from being applied to mechanical spaces and other staff only areas. The term “story” is used to clarify that this section applies to movement along a level plane; not movement between stories.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal will prevent a condition where a non-ambulatory person would have to negotiate a condition other than a ramp.

Assembly Action:

None

Final Hearing Results

E13-07/08

AS

Code Change No: E19-07/08

Original Proposal

Table 1005.1 (IFC [B]1005.1), 3403.5(New), 3410.6.11, Table 3410.6.11(1) (New), Table 3410.6.11, [IEBC [B]302.5(New), [B]1306.11.1(New), [B]Table 1306.11.1(1) (New), Table 1306.11.1]; IFC 1027.2(New), Table 1027.2(New); IEBC 604.2(New), Table 604.2(New), 912.4.1, 912.4.2

Proponent: David Frable, US General Services Administration

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS, IFC AND THE IEBC CODE DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

1. Delete and substitute as follows:

**TABLE 1005.1 (IFC [B] 1005.1) (Supp)
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM ^a	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	0.3	0.2

For SI: 1 inch = 25.4 mm.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

**TABLE 1005.1 (IFC [B] TABLE 1005.1)
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	STAIRWAYS (INCHES PER OCCUPANT)	OTHER EGRESS COMPONENTS (INCHES PER OCCUPANT)
All occupancies	0.3	0.2

For SI: 1 inch = 25.4 mm.

3403.5 (IEBC 302.5) Means of egress capacity factors. Alterations to any existing building or structure shall not be affected by the egress width factors in Table 1005.1 for new construction in determining the minimum egress widths or the minimum number of exits in an existing building or structure. The minimum egress widths for the components of the means of egress shall be based on the means of egress width factors in the building code under which the building was constructed, and shall be considered as complying means of egress for any alteration if, in the opinion of the building official, they do not constitute a distinct hazard to life.

2. Revise as follows:

3410.6.11 (IEBC [B] 1301.6.11) Means-of-egress capacity and number. Evaluate the means-of-egress capacity and the number of exits available to the building occupants. In applying this section, the means of egress are required to conform to the following sections of the *International Building Code*: 1003.7, 1004, 1005.1, 1014.2, 1014.3, 1015.2, 1019, 1024.1, 1024.2, 1024.6, 1025.2, 1024.3, 1024.4 and 1026 (except that the minimum width

required by this section shall be determined solely by the width for the required capacity in accordance with Table 3410.6.11(1). The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the means of egress when conforming to Section 705.3.1.2. Under the categories and occupancies in Table 1301.6.11(2), determine the appropriate value and enter that value into Table 1301.7 under Safety Parameter 1301.6.11, Means-of-Egress Capacity, for means of egress and general safety.

TABLE 3410.6.11(1) [IEBC TABLE 1306.11.1(1)]
EGRESS WIDTH PER OCCUPANT SERVED

<u>OCCUPANCY</u>	<u>WITHOUT SPRINKLER SYSTEM</u>		<u>WITH SPRINKLER SYSTEM^a</u>	
	<u>Stairways (inches per occupant)</u>	<u>Other egress components (inches per occupant)</u>	<u>Stairways (inches per occupant)</u>	<u>Other egress components (inches per occupant)</u>
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	0.3	0.2

For SI: 1 inch – 25.4 mm.

- a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

TABLE 3410.6.11(2) [IEBC TABLE 1306.11.1(2)]
MEANS OF EGRESS VALUES

(No change to table – change reference to table in)

PART II – IFC

Add new text as follows:

1027.2 Minimum required egress width. The means of egress width shall not be less than required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by the factors in Table 1027.2 and not less than specified elsewhere in this section. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

TABLE 1027.2
EGRESS WIDTH PER OCCUPANT SERVED

<u>OCCUPANCY</u>	<u>WITHOUT SPRINKLER SYSTEM</u>		<u>WITH SPRINKLER SYSTEM^a</u>	
	<u>Stairways (inches per occupant)</u>	<u>Other egress components (inches per occupant)</u>	<u>Stairways (inches per occupant)</u>	<u>Other egress components (inches per occupant)</u>
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	0.3	0.2

For SI: 1 inch – 25.4 mm.

- a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

PART III – IEBC

1. Add new text as follows:

604.2 Minimum required egress width. The means of egress width shall not be less than required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by the factors in Table 604.2 and not less than specified elsewhere in this section. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

**TABLE 604.2
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM^a	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	0.3	0.2

For SI: 1 inch – 25.4 mm.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with the *International Building Code* Section 903.3.1.1 or 903.3.1.2.

2. Revise as follows:

912.4.1 Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 912.4, the means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exceptions:

1. Stairways shall be enclosed in compliance with the applicable provisions of Section 803.1.
2. Existing stairways including handrails and guards complying with the requirements of Chapter 8 shall be permitted for continued use subject to approval of the code official.
3. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
4. Existing corridor walls constructed of wood lath and plaster in good condition or 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted.
5. Existing corridor doorways, transoms, and other corridor openings shall comply with the requirements in Sections 705.5.1, 705.5.2, and 705.5.3.
6. Existing dead-end corridors shall comply with the requirements in Section 705.6.
7. An existing operable window with clear opening area no less than 4 square feet (0.38 m²) and with minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.
8. Existing corridors shall be permitted to comply with the egress width capacity as determined by Table 604.2.

912.4.2 Means of egress for change of use to equal or lower hazard category. When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table 912.4, existing elements of the means of egress shall comply with the requirements of Section 805 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.

Exceptions:

1. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
2. Existing corridors shall be permitted to comply with the egress width capacity as determined by Table 604.2.

Reason: PART I - IBC Table 1005.1: The intent of this code change is to ensure coordination of requirements within the IBC. This is Part 4 of addressing the proposed new egress width factors in Table 1005.1 of the IBC (see PART 1) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when utilizing compliance alternatives in Chapter 34 of the IBC.

3403.5/IEBC 302.5: The intent of this code change is to ensure coordination of requirements within the IBC. This is Part 3 of addressing the proposed new egress width factors in Table 1005.1 such that the impact of such revisions to Table 1005.1 of the IBC (see PART 1) will not be detrimental to existing building stock across the country when making alterations in accordance with the requirements in Chapter 34 of the IBC.

3410.6.11/IEBC 1306.11: The intent of this code change is to revise the egress width factors in Table 1005.1 such that the concept of determining egress capacity for the components of the means of egress within a building is not a function of whether or not a building is protected throughout by an automatic fire sprinkler system. Not all building emergencies that necessitate occupant egress either out of a building or within a building to a safe area are dependent on a fire sprinkler system. Please also note that the occupancy factors are still unchanged for I-2 and H occupancies since all I-2 and H occupancies are required to be protected by an automatic fire sprinkler system.

PART II - The intent of this code change is to ensure coordination between the requirements in the IBC and the IFC. This is Part II of addressing the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IFC.

PART III - The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This is Part III of addressing the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IFC.

Cost Impact: The code change proposal will increase the cost of construction.

Analysis: IBC Section 3410.6.11 was revised to coordinate with IEBC Section 1301.6.11 by the CCC committee at their Sept. 2007 meeting. EB62-04/05 revise the general reference to IBC Chapter 10 in IEBC 1301.6.11 to the specific sections dealing with means of egress capacity and number.

Public Hearing Results

Errata: Modify tables and reason statements as follows:

PART I – IBC MEANS OF EGRESS

**TABLE 3410.6.11(1) [IEBC TABLE 1306.11.1(1)]
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM ^a	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	0.3 0.3	0.2

For SI: 1 inch – 25.4 mm.

- a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

(Portions of proposal not shown remain unchanged)

REASON: PART I – IBC MEANS OF EGRESS

IBC Table 1005: The intent of this code change is to revise the egress width factors in Table 1005.1 such that the concept of determining egress capacity for the components of the means of egress within a building is not a function of whether or not a building is protected throughout by an automatic fire sprinkler system. Not all building emergencies that necessitate occupant egress either out of a building or within a building to a safe area are dependent on a fire sprinkler system. Please also note that the occupancy factors are still unchanged for I-2 and H occupancies since all I-2 and H occupancies are required to be protected by an automatic fire sprinkler system.

3403.5/IEBC 302.5: The intent of this code change is to ensure coordination of requirements within the IBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 such that the impact of such revisions to Table 1005.1 of the IBC will not be detrimental to existing building stock across the country when making alterations in accordance with the requirements within the IBC and IEBC.

3410.6.11/IEBC 1306.11: The intent of this code change is to ensure coordination of requirements within the IBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 such that the impact of such revisions to Table 1005.1 of the IBC will not be detrimental to existing building stock across the country when making alterations in accordance with the requirements within the IBC and IEBC.

PART II – IFC

**TABLE 1027.2
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM ^a	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	0.3 <u>0.3</u>	0.2

For SI: 1 inch – 25.4 mm.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

(Portions of proposal not shown remain unchanged)

REASON: PART II - IFC

IFC 1027.2 - The intent of this code change is to ensure coordination between the requirements in the IBC and the IFC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IFC.

PART III – IEBC

**TABLE 604.2
EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM ^a	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	Not permitted	Not permitted	0.3	0.2
Institutional: I-2	Not permitted	Not permitted	0.3 <u>0.3</u>	0.2

For SI: 1 inch – 25.4 mm.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with the *International Building Code* Section 903.3.1.1 or 903.3.1.2.

(Portions of proposal not shown remain unchanged)

PART III - IEBC

IEBC 604.2: The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IEBC.

IEBC 912.4.1: The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IEBC.

IEBC 912.4.2: The intent of this code change is to ensure coordination between the requirements in the IBC and the IEBC. This action will ensure coordination with the proposed new egress width factors in Table 1005.1 of the IBC (see PART I) such that the impact of such revisions to Table 1005.1 will not be detrimental to existing building stock across the country when enforcing the requirements of the IEBC.

PART I – IBC MEANS OF EGRESS**Committee Action:****Approved as Submitted**

Committee Reason: Occupants may need to egress buildings during non-fire events where sprinklers systems do not provide additional protection. Therefore, the increase in corridor and stairway width, and thus egress capacity, is justified.

Assembly Action:**None****PART II – IFC****Committee Action:****Approved as Modified****Modify the proposal as follows:**

1027.2 Minimum required egress width. The means of egress width shall not be less than as required by the code under which constructed but not less than as required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by the factors in Table 1027.2 and not less than specified elsewhere in this section. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

(Portions of Part II of proposal not shown remain unchanged)

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Committee Reason: For consistency with the action taken by the IBC-MOE Committee on Part I of this proposal and to provide correlation between IBC Chapter 10 and the existing building egress provisions of the IFC. The modification provides a more reasonable approach to existing buildings by allowing compliance with the original code of construction of the building as long as it is comparable to the new section.

Assembly Action: **None**

PART III – IEBC

Committee Action: **Disapproved**

Committee Reason: The proposal would require changes in egress width when minor alterations are made. This is an unreasonable trigger.

Assembly Action: **None**

Final Hearing Results

E19-07/08, Part I	AS
E19-07/08, Part II	AM
E19-07/08, Part III	D

Code Change No: E20-07/08

Original Proposal

Sections: 1005.2 (IFC [B] 1005.2)

Proponent: Philip Brazil, Reid Middleton, representing himself

Revise as follows:

1005.2 (IFC [B] 1005.2) (Supp) Encroachment. Doors, when fully opened, and handrails shall not reduce the required means of egress width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features ~~are~~ shall be permitted to project into the required width a maximum of 1.5 inches (38 mm) on each side.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

Reason: The purpose of the proposal is to more clearly convey the intent of the changes approved by Proposal E18-07/08-AM by eliminating nonmandatory language and establishing a more objective limit on nonstructural projections.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: The additional language clarifies that the permitted projections are a maximum rather than an absolute.

Assembly Action: **None**

Final Hearing Results

E20-07/08	AS
-----------	----

Code Change No: **E29-07/08**

Original Proposal

Sections: 1007.3 (IFC [B] 1007.3)

Proponent: Maureen Traxler, Planning & Development, City of Seattle, WA

Revise as follows:

1007.3 (IFC [B] 1007.3) Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. The area of refuge is not required at unenclosed interior exit stairways as permitted by Section 1020.1 in buildings ~~or facilities~~ that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings ~~or facilities~~ equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at exit stairways in buildings ~~or facilities~~ equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge are not required for smoke protected seating areas complying with Section 1025.6.2.
7. The areas of refuge are not required in Group R-2 occupancies.

Reason: The phrase “or facilities” as used in this section is ambiguous. “Facility” is defined in Section 1102 broadly enough to include everything from a “portion of buildings” to “all ... structures... located on a site.” The definition raises the question whether, in order to use these exceptions, a sprinkler system is required in the entire building, in a portion of the building, or throughout the entire site. Removing “facilities” makes it clear that the entire building is required to be sprinklered, which is the most likely interpretation of the existing language. This interpretation is supported by the 2006 International Building Code Commentary that says, in reference to exception 2 of the 2006 IBC (which is now exception 1) “...for an unenclosed exit stairway ... in a building sprinklered in accordance with NFPA 13, an area of refuge is not required.” In regard to exception 3 (which is now exception 2), the Commentary says “Exception 3 exempts the 48-inch (1219) mm width requirement in buildings sprinklered in accordance with NFPA 13 or NFPA 13R for both enclosed and unenclosed stairways.” (emphasis added.)

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The term facility as currently defined is vague. The deletion in the exceptions will make it clear that the entire building must be sprinklered for the exceptions to be applicable.

Assembly Action:

None

Final Hearing Results

E29-07/08

AS

Code Change No: **E34-07/08**

Original Proposal

Sections: 1007.6.3, 1007.6.4, 1007.9(New), 1007.9.1(New), 1007.9.2(New), [IFC [B] 1007.6.3, [B] 1007.6.4, [B]1007.9(New), [B]1007.9.1(New), [B]1007.9.2(New)]

Proponent: David Frable US General Services Administration

1. Add new sections as follows:

1007.9 (IFC [B] 1007.9) Two-way communication. A two-way communication system shall be provided at the elevator landing on each accessible floor that is one or more stories above or below the story of exit discharge complying with Sections 1007.9.1 and 1007.9.2.

Exceptions:

1. Two-way communication systems are not required at the elevator landing where the two-way communication system is provided within areas of refuge in accordance with Section 1007.6.3.
2. Two-way communication systems are not required on floors provided with exit ramps conforming to the provisions of Section 1010.

1007.9.1 (IFC 1007.9.1) System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two way communication system is permitted to be provided by a controlled access to a public telephone system. The two-way communication system shall include both audible and visible signals.

1007.9.2 (IFC [B] 1007.9.2) Directions. Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system, and written identification of the location, shall be posted adjacent to the two-way communication system.

2. Revise as follows:

1007.6.3 (IFC [B] 1007.6.3) Two-way communication. ~~Areas of refuge shall be provided with a two-way communication system between the area of refuge and a central control point. If the central control point is not constantly attended, the area of refuge shall also have ontrolled access to a public telephone system. Location of the central control point shall be approved by the fire department. The two-way communication system shall include both audible and visible signals. complying with Sections 1007.9.1 and 1007.9.2.~~

1007.6.4 (IFC [B] 1007.6.4) Instructions. ~~In areas of refuge that have a two-way emergency communications system, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:~~

1. ~~Directions to find other means of egress.~~
2. ~~Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.~~
3. ~~Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.~~
4. ~~Directions for use of the emergency communications system.~~

Reason: The intent of this code change is to address an issue that has been raised by the disability community regarding the need to provide a two-way communication system on a floor for individuals unable to negotiate exit stairways during an emergency.

Current text only requires two-way communication systems within areas of refuge. Exceptions to Section 1007.3 and 1007.4 allow for the elimination of the area of refuge. This proposal will require two-way communication systems at the elevators on accessible levels other than the level of exit discharge. Exception 1 would avoid requiring a two-way communication system at the elevator when two-way communication was provided in the area of refuge. Exception 2 would avoid requiring a two-way communication system at the elevator when the floor level had ramps that allowed for independent evacuation, such as in a sports stadium.

In high rise building, typically, building occupant emergency plans use the elevator landings on each floor of a building as a staging area for individuals unable to negotiate exit stairways in an emergency. The new text proposed will provide an effective means for those individuals unable to negotiate exit stairways to communicate their location via a two-way communication system to either the fire command center or a central control point during an emergency condition. Signage will be provided with directions for operation of the system when provided at elevators and within areas of refuge.

The changes to Section 1007.6.3 and 1007.6.4 are for correlation only. Putting the two-way communication requirements in one section instead of repeating in two sections will eliminate possible conflicts in the future.

Another change addresses the issue of signage. These two changes will work separately or as a package.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1007.9.1 (IFC 1007.9.1) System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two way communication system shall have a ~~timed automatic telephone dial-out capability to a monitoring location or 911 is permitted to be provided by a controlled access to a public telephone system.~~ The two-way communication system shall include both audible and visible signals.

(Portions of proposal not shown remain unchanged)

Committee Reason: The modification will provide a clearer direction on how the phone system is expected to perform. The requirement for a two-way communication system at an elevator lobby does allow occupants to reach emergency responders to request assistance. This is important for persons with disabilities as well as others who may not be able to evacuate using the stairways. The lobby is an appropriate location since this is the point where most people will go since that is the area they are familiar with. Requirements should be addressed for multi-story buildings where elevators were not provided.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Dave Frable, US General Services Administration, requests Approval as Modified by this public comment.

Modify proposal as follows:

~~**1007.6.4 (IFC [B] 1007.6.4) Instructions.** In areas of refuge, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:~~

- ~~1. Directions to find other means of egress.~~
- ~~2. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.~~

1007.12 (IFC [B] 1007.12) Instructions. In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following:

1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
2. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
3. Directions for use of the two-way communications system where provided.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Code changes E34 and E35 were both approved. The result is a requirement for a two way communication system at elevators, and associated signage at the elevators and stairways that serve as part of an accessible means of egress. The original changes were written as stand alone pieces. Inadvertently, the approval of E34 deleted text that is needed for a complete package. This modification is a coordination of requirements between the two changes. The text for signage as it stands now is indicated below. The proposed modification is intended to add Items 2 and 3 in Section 1007.12.

1007.10 Signage. Signage indicating special accessibility provisions shall be provided as shown:

1. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating: AREA OF REFUGE.

2. Each door providing access to an exterior areas for assisted rescue shall be identified by a sign stating: EXTERIOR AREA FOR ASSISTED RESCUE.

Signage shall comply with the ICC A117.1 requirements for visual characters and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the signs shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge and exterior area for assisted rescue in accordance with Section 1011.3.

1007.11 Directional signage. Direction signage indicating the location of the other means of egress and which are accessible means of egress shall be provided at the following:

1. At exits serving a required accessible space but not providing an approved accessible means of egress.
2. At elevator landings.
3. Within areas of refuge.

1007.12 Instructions. In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following:

1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.

Final Hearing Results

E34-07/08

AMPC1

Code Change No: E35-07/08

Original Proposal

Sections: 1007.6.4, 1007.6.5, 1007.7, 1007.8.3, 1007.9(New), 1007.10(New), 1011.3, 1110.1, 1110.2, 1110.3, [IFC [B] 1007.6.4, [B]1007.6.5, [B]1007.7, [B]1007.8.3, [B]1007.9 (New), [B] 1007.10(New)]; IFC 404.3.2

Proponent: David Frable US General Services Administration

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IFC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC

1. Add new sections as follows:

1007.9 (IFC [B] 1007.9) Signage. Signage indicating special accessibility provisions shall be provided as shown:

1. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating: AREA OF REFUGE.
2. Each door providing access to an exterior areas for assisted rescue shall be identified by a sign stating: EXTERIOR AREA FOR ASSISTED RESCUE.

Signage shall comply with the ICC A117.1 requirements for visual characters and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the signs shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge and exterior area for assisted rescue in accordance with Section 1011.3.

1007.10 (IFC [B] 1007.10) Directional signage. Direction signage indicating the location of the other means of egress and which are accessible means of egress shall be provided at the following:

1. At exits serving a required accessible space but not providing an approved accessible means of egress.
2. At elevator landings.
3. Within areas of refuge.

2. Revise as follows:

~~1007.6.4 (IFC [B] 1007.6.4) 1007.12 (IFC [B] 1007.12) Instructions.~~ In areas of refuge and exterior areas for assisted rescue that have a two-way emergency communications system, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:

- ~~1. Directions to find other means of egress.~~
- 2- 1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
- 3- 2. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
- 4- 3. Directions for use of the emergency two-way communications system where provided.

~~1007.6.5 (IFC [B] 1007.6.5) Signage.~~ Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign complying with ICC A117.1, stating: AREA OF REFUGE, and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the area of refuge sign shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge.

~~1007.7 (IFC [B] 1007.7) Signage.~~ At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress.

~~1007.8.3 (IFC [B] 1007.8.3) Identification.~~ Exterior areas for assisted rescue shall have identification as required for area of refuge that complies with Section 1007.6.5.

1011.2 (IFC [B] 1011.2) Illumination. Exit signs shall be internally or externally illuminated.

Exception: Tactile signs required by Section 1011.3 need not be provided with illumination.

1011.3 (IFC [B] 1011.3) Tactile exit signs. A tactile sign stating EXIT and complying with ICC A117.1 shall be provided adjacent to each door to an area of refuge, an exterior area for assisted rescue, an egress stairway, an exit passageway and the exit discharge.

SECTION 1110 SIGNAGE

1110.1 Signs. Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations:

1. Accessible parking spaces required by Section 1106.1 except where the total number of parking spaces provided is four or less.
2. Accessible passenger loading zones.
3. ~~Accessible areas of refuge required by Section 1007.6.~~
- 4- 3. Accessible rooms where multiple single-user toilet or bathing rooms are clustered at a single location.
- 5- 4. Accessible entrances where not all entrances are accessible.
5. Accessible check-out aisles where not all aisles are accessible. The sign, where provided, shall be above the check-out aisle in the same location as the check-out aisle number or type of check-out identification.
6. Unisex toilet and bathing rooms.
7. Accessible dressing, fitting and locker rooms where not all such rooms are accessible.
8. Accessible areas of refuge in accordance with Section 1007.9
9. Exterior areas for assisted rescue in accordance with Section 1007.9.

1110.2 Directional signage. Directional signage indicating the route to the nearest like accessible element shall be provided at the following locations. These directional signs shall include the International Symbol of Accessibility:

1. Inaccessible building entrances.
2. Inaccessible public toilets and bathing facilities.
3. Elevators not serving an accessible route.
4. At each separate-sex toilet and bathing room indicating the location of the nearest unisex toilet or bathing room where provided in accordance with Section 1109.2.1.
5. At exits and elevators and exit stairways serving a required accessible space, but not providing an approved accessible means of egress, signage shall be provided in accordance with Section ~~1007.7~~ 1007.10.

1110.3 Other signs. Signage indicating special accessibility provisions shall be provided as shown:

1. Each assembly area required to comply with Section 1108.2.6 shall provide a sign notifying patrons of the availability of assistive listening systems.

Exception: Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.

2. At each door to an area of refuge, an exterior area for assisted rescue, an egress stairway, exit passageway and exit discharge, signage shall be provided in accordance with Section 1011.3.
3. At areas of refuge, signage shall be provided in accordance with Sections 1007.6.3 through 1007.6.5 and 1007.9.
4. At exterior areas for assisted rescue, signage shall be provided in accordance with Section ~~1007.8.3~~ 1007.9.
5. At two way communication systems, signage shall be provided in accordance with Section 1007.12.

PART I – IFC

Revise text as follows.

404.3.2 (Supp) Fire safety plans. Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.
2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants, including occupants who need assistance.
3. Site plans indicating the following:
 - 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.
4. Floor plans identifying the locations of the following:
 - 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.
 - 4.5. Areas of refuge.
 - 4.6. Exterior areas for assisted rescue.
 - 4.7. Designated locations for persons unable to use the general means of egress unassisted per the facilities fire evacuation plan
 - 4.7. ~~4.8~~ Manual fire alarm boxes.
 - 4.8. ~~4.9~~ Portable fire extinguishers.
 - 4.9. ~~4.10~~ Occupant-use hose stations.
 - 4.10. ~~4.11~~ Fire alarm annunciators and controls.
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

Reason: The reason for this code change proposal is to address an issue that has been raised by the disability community regarding the availability of information for individuals unable to negotiate exit stairways during an emergency. Exceptions to Section 1007.3 and 1007.4 allow for the elimination of the area of refuge. With the deletion of the area of refuge, there is limited information for people on where assistance for evacuation will be provided.

The intent of this proposal is to provide signage at: the following locations.

- Since most people will tend to go back to the elevator first, information must be available at the elevator that indicates to persons that they can stay there for assistance or directional signage to where they can go for assistance (e.g. stairways, areas of refuge, exterior areas for rescue assistance).
- Signage must be provided at area or refuge and exterior areas of rescue assistance.
- Directional signage must be provided at any exit or exit stairway that does not serve as part of an accessible means of egress.

The signage information needed for accessible means of egress has been grouped in a new Section 1007.9 and 1007.10. This information would be coordinated with the fire and safety evacuation plans (IFC Section 404.3). Changes to Section 1011 are coordination only.

Another change addresses the two-way communication. These two changes will work separately or as a package.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

PART I – IBC MEANS OF EGRESS**Committee Action:****Approved as Submitted****Committee Reason:** The proposed text provides necessary information for exiting direction.**Assembly Action:****None****PART II – IFC****Committee Action:****Withdrawn by Proponent**

Final Hearing Results

E35-07/08, Part I	AS
E35-07/08, Part II	WP

Code Change No: E39-07/08

Original Proposal

Sections: 1008.1.2, 1008.1.2.1 (New) [IFC [B] 1008.1.2, [B] 1008.1.2.1 (New)]**Proponent:** Gary Miller, City of Irving, TX, representing North Texas Chapter of ICC**1. Revise as follows:****1008.1.2 (IFC [B] 1008.1.2) (Supp) Door swing.** Egress doors shall be of the pivoted or side-hinged swinging type.**Exceptions:**

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

2. Add new text as follows:**1008.1.2.1 (IFC [B] 1008.1.2.1) Double-acting doors.** Double-acting doors shall not be used as doors in a means of egress where any of the following conditions exist:

1. The occupant load served by the door is 100 or more.
2. The door is part of a fire door assembly.
3. The door is part of an opening in a smoke barrier.
4. Panic hardware is required or provided on the door.

A double-acting door shall be provided with a view panel of not less than 200 square inches (0.129 m²).

Reason: This proposal will clarify and add new requirements to the Code. As this section is currently written, egress doors equipped with pivot hardware are prohibited from use, and double-acting doors are allowed without any limiting or clarifying language.

Although pivot doors and side-hinged doors function in a nearly identical manner, they are different devices with pivot hardware typically being installed on the bottom and top edges of doors rather than on the side. The omission of pivot type doors from the door swing section of the IBC has been consistent since the 2000 Edition, but they were included as an allowed door type in at least one of the legacy codes (UBC). The 2006 IBC includes at least two direct references and one indirect reference to pivot hardware: (1) Section 715.4.1 designates test standards for "Side-hinged and pivoted swinging doors; (2) Section 1002 includes a reference to "double-pivoted hardware" in the definition of the term "balanced door"; (3) Section 1008.1.9 identifies installation criteria "If balanced doors are used and panic hardware is required . . ." – the implied assumption being that pivots serve as the hinge device of the balanced door. Pivot doors are commonly used, especially on glass doors, and should be allowed as long as they meet the other applicable code provisions such as opening force and clear opening width.

Double-acting doors are doors that swing in both directions, are also in common usage, and should continue to be allowed, but with some restrictions. Proposed Section 1008.1.2.1 is wording that is taken from the 1997 UBC with minor terminology updates. Restriction #1 addresses a practical threshold beyond which the use of double-acting doors would create a potentially unsafe emergency exiting condition; restrictions #2 & #3 address practical limitations since double-acting doors are incapable of providing positive latching; restriction #4 adds another practical restriction in that doors equipped with panic hardware should only swing in one direction. The last sentence in this section requires the installation of a view panel in order to lessen the chance of a person being struck by the door which is being blindly pushed open from the opposite side.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Section 1008.1.2 is a clarification that pivoted and side hinged are both acceptable. The committee had concerns with new Section 1008.1.2.1. It is unclear if the 100 person occupant load is cumulative from both sides, from each side or from the total floor. The viewing panels may be privacy issue in double acting doors used in patient rooms or bathrooms. The location of the viewing panel needs to be stated so that they will achieve their purpose.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Steve Thomas, Colorado Code Consulting LLC, representing Colorado Chapter of ICC, requests Approval as Modified by this public comment.

Maureen Traxler, City of Seattle, WA, representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Modified by this public comment.

Modify proposal as follows:

1008.1.2 (IFC [B] 1008.1.2) (Supp) Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.3.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.3.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

~~**1008.1.2.1 (IFC [B] 1008.1.2.1) Double-acting doors.** Double-acting doors shall not be used as doors in a means of egress where any of the following conditions exist:~~

- ~~1. The occupant load served by the door is 100 or more.~~
- ~~2. The door is part of a fire door assembly.~~

- ~~3. The door is part of an opening in a smoke barrier.~~
~~4. Panic hardware is required or provided on the door.~~

A double-acting door shall be provided with a view panel of not less than 200 square inches (0.129 m²).

Commenter's Reason: (Thomas) The committee felt that Item 1 of the proposed change was reasonable, but they did not like Item 2. This public comment keeps the language of Item 1 and deletes the language from Item 2. The original proposal added the words "of the pivoted or" to Section 1008.1.2. This would clarify that the use of pivot hinged doors provides the same action of the door swing requirements in the code.

Commenter's Reason: (Traxler) Pivoted doors are a safe and reasonable alternative to side-hinged swinging doors. The Code Development Committee's reason for disapproving this code change proposal included the statement "pivoted and side hinged doors are both acceptable." Section 1008.1.2 of the code change proposal should be approved.

Final Hearing Results

E39-07/08

AMPC

Code Change No: E41-07/08

Original Proposal

Sections: 1008.1.3.4 (IFC [B] 10081.3.4)

Proponent: John Williams, Washington State Department of Health, Construction Review Services, representing Washington Association of Building Officials, Technical Code Development Committee

Revise as follows:

1008.1.3.4 (IFC [B] 1008.1.3.4) Access-controlled egress doors. The entrance doors in a means of egress in buildings with an occupancy in Group A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, I-2, M, R-1 and R-2 are permitted to be equipped with an approved entrance and egress access control system which shall be installed in accordance with all of the following criteria:

1. A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock— independent of the access control system electronics—and the doors shall remain unlocked for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.

Reason: The purpose of this code change is to clarify the intent of the current code. Healthcare facilities are being asked by the Department of Homeland Security to "harden their facilities" and plan for biological, radiological or epidemic disasters. Hospitals need to control access into their facilities by funneling the arriving public through a planned triage point, such as an emergency department. Without this control, infected or contaminated persons could enter at various unsecured points and spread contamination throughout the building as they made their way to the emergency room. Access control systems, such as the one described in section 1008.1.3.4, can be used to mitigate this circumstance. However, this section does not list these systems as allowable in I-2 occupancies. This is overly restrictive and inconsistent with other sections of this code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal to add Group I-2 to allow access controlled egress doors allows for improved security in hospital areas, such as at the entrance to a maternity ward. This type of lock is already being used throughout Group I-2 facilities.

Assembly Action:

None

Final Hearing Results

E41-07/08

AS

Code Change No: **E45-07/08**

Original Proposal

Sections: 1008.1.8.4, (IFC [B] 1008.1.8.4)

Proponent: Thomas W. Hanson AIA, The Boeing Company

Revise as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf provided such inactive leaf is not needed to meet egress width requirements and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

Reason: The purpose of this proposal is to provide for the expanded use of manually operated edge- or surface-mounted bolts under specified conditions. The movement of equipment and computer racks within Group B, F and S occupancies is a commonplace operation that often requires more width than is provided by a standard 3'-0" door. The currently required hardware on additional door leaves can be complicated to specify and problematic to maintain as the operational requirements are different for doors accommodating equipment as opposed to occupants during egress. A number of compensatory measures have been offered in this proposed exception so as to minimize the risk to the occupants of such spaces. There is generally a high degree of occupant familiarity with such special use rooms in Group B, F and S occupancies. The provision that means of egress width requirements be satisfied by the operating leaf ensures that occupants have a fully complying door available for means of egress purposes. Also, the requirement that the inactive leaf contain no operating hardware addresses occupant conditioning. The presence of operating hardware provides an expectation to building occupants. Where no such hardware exists, occupants will naturally approach the active leaf having the appropriate hardware. The additional requirement that the building be equipped throughout with an approved automatic sprinkler system provides for fire suppression throughout the building and further enhances overall occupant safety. Approval of this additional exception will increase building functionality while maintaining a very high degree of occupant safety.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal clarifies when surface bolts can be used on non-active leafs of doors. The inactive leaf is not needed for means of egress and the no hardware requirement will make sure this is not considered part of the door. The automatic fire suppression system provides additional compensation. This proposal may need to be expanded to other occupancies such as Group A or M.

Assembly Action:

None

Final Hearing Results

E45-07/08

AS

Code Change No: E46-07/08

Original Proposal

Sections: 1008.1.8.4, (IFC [B] 1008.1.8.4)

Proponent: Thomas W. Hanson, AIA, The Boeing Company

Revise as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

Reason: The purpose of this proposal is to provide for the expanded use of manually operated edge- or surface-mounted bolts under specified conditions. Inasmuch as a single 3'-0" door will accommodate an occupant load in excess of 200 persons, if a relatively small space in a Group B, F or S occupancy is equipped with a pair of doors, it is highly likely that such increased width is necessary for the movement of process related equipment or supplies. Automatic surface mounted flush bolts and removable door center posts are easily damaged and difficult to maintain in such areas of frequent equipment movement. A number of compensatory measures have been offered in this proposal so as to minimize the risk to the occupants of such spaces. There is generally a high degree of occupant familiarity with such special use rooms in Group B, F and S occupancies. Placing a less than 50 person occupant load limitation on the area served by the pair of doors greatly increases occupant awareness and decreases competition for the exit or exit access door. Also, the requirement that the inactive leaf contain no operating hardware addresses occupant conditioning. The presence of operating hardware provides an expectation to building occupants. Where no such hardware exists, occupants will naturally approach the active leaf having the appropriate hardware. Approval of this additional exception will increase building functionality while maintaining a very high degree of occupant safety.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal allows design flexibility and functionality. The 50 person limit provides for an additional level of safety. The inactive leaf is not needed for means of egress and the no hardware requirement will make sure this is not considered part of the door. This proposal may need to be expanded to other occupancies such as Group A or M.

Assembly Action:

None

Final Hearing Results

F46-07/08

AS

Code Change No: **E47-07/08**

Original Proposal

Sections: 1008.1.8.4 (IFC [B] 1008.1.8.4)

Proponent: Bruce Ugelstad, NCARB, MeritCare Health System

Revise as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serve patient care rooms in a Group I-2 occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.

Reason: The American society has increasingly become overweight creating the need to care for increasingly more bariatric hospital patients. The movement of morbidly obese patients on bariatric beds through 4' wide doors is a difficult process at best. Providing a pair of doors with a typically fixed inactive leaf except during the movement of the patient would greatly improve the situation. With the active leaf of the door typically open for the monitoring of the patient by the nursing staff, automatic flush bolts would not keep the inactive leaf latched in the closed position as preferred.

Allowing hospital patient care room inactive leaf doors to be equip with standard flush bolts will:

- A) Improve the quality of care to hospital patients allowing smooth and easy transport of patients to and from rooms without moving the patient to a transport cart and providing adequate opening size allowing minimal incidence of jarring when the bed bumps the door or wall.
- B) Reduce the risk of injury to medical staff by reducing the need to move (lift) the patient on and off of transport carts.

Section 407.3.1 Corridor doors – Code currently indicates that patient room doors "...shall not have a required fire protection rating and shall not be required to be equipped with self closing or automatic-closing devices, but shall provide an effective barrier to limit the transfer of smoke and shall be equipped with positive latching." Hospital patient room doors are recognized as unique with staff trained to close doors during an alarm situation.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: While the need for this allowance is understood, there are some problems with the proposed language. The language needs to be expanded to say that no hardware is permitted on the door so that it is not perceived as a door. A needed clarification is that the remaining door leaf must meet the egress width of 41-1/2" inches. Language similar to what was approved for E45 and E46 may provide guidance.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Bruce Ugelstad, NCARB, MeritCare Health System, requests Approval as Modified by this Public Comment.

Douglas S. Erickson, FASHE, CHFM, HFDP, American Society for Healthcare Engineering, requests As Modified by this public comment.

Modify proposal as follows:

1008.1.8.4 (IFC [B] 1008.1.8.4) Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves patient care rooms in a Group I-2 occupancy, ~~manually operated~~ self-latching edge- or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware.

Commenter's Reason: (Ugelstad) The modified code change proposal will satisfy a real need of medical staff and will not compromise safety to patients and building occupants. The modification changed manual latching device to a self latching hardware device. This hardware type is manufactured by Ives FB61T "Constant latch", Hager 294D "Self latching", DCI 905 "Self Latching". The function of self latching hardware is to provide a latch and strike at the top of the door and frame, so that when the door is pushed against the stop, the door will latch.

In Palm Springs, the following concerns were raised:

- 1) Manual latching would require excessive time to secure the inactive leaf during an emergency.
Response: The self latching bolt will secure when closed reducing the time required securing the door leaf.
- 2) The inactive leaf should not be considered as required egress width and should not be equip with door knobs, panic bars or similar operating hardware.
Response: The added wording "provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware." will address this concern.

Commenter's Reason: (Erickson) I am writing in support of the proposed code change being presented by Mr. Bruce Ugelstad, MeritCare Health System. The issue he is representing, needing to increase the typical door opening to a patient room, is a global problem facing the health care industry, as more of our patients are morbidly obese.

For over a century, the 44" or 48" patient room door has been adequate to permit the efficient transfer of patients to and from their rooms. Over this past decade however, we are struggling with the size of the patient door opening, as the equipment has gotten larger in order to support the increase size and weight of the patient. The purpose for increasing the size of this opening is not for life safety in an emergency, as the typical methods of transporting these patients from their room in an emergency have not changed. The purpose of this proposed change is to assist staff in easily moving equipment and patients to and from their rooms on a daily basis without damaging the doors or injuring themselves by trying to tilt or lift equipment to fit through the opening.

Mr. Ugelstad explains this situation very well in his proposed change. One thing that needs to be added to his substantiation, is that these are not Bariatric patient rooms where the patient is large enough to mandate larger patient room door openings for life safety and evacuation purposes.

Our membership is very interested in the work of the ICC and we stand ready to assist in any manner you and the organization see as appropriate.

Final Hearing Results

E47-07/08

AMPC

Code Change No: E48-07/08

Original Proposal

Sections: 1008.1.8.5.1 (New) [IFC [B] 1008.1.8.5.1 (New)]

Proponent: Tom Lariviere, Madison Fire Department, representing Joint Fire Service Review Committee

Add new text as follows:

1008.1.8.5.1. (IFC [B] 1008.1.8.5.1) Closet and bathroom doors in Group R-4 Occupancies. In Group R-4 occupancies, closet doors that latch in the closed position shall be openable from inside the closet, and bathroom doors that latch in the closed position shall be capable of being unlocked from the ingress side.

Reason: This proposal will require that doors to closets must be openable from the inside. This will provide the ability for someone to exit the closet if they were to get closed into the closet.

Additionally, the bathroom doors must be able to be unlocked from the outside of the bathroom when the door is locked from the inside. This will allow for the door to still be locked when the bathroom is in use, but staff can open the bathroom door when someone is inside and needs assistance.

Cost Impact: This code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The committee approved the special locking arrangements for closets and bathrooms in Group R-4 because it was needed for safety of the individuals. The MOE committee disapproved a similar proposal for Group I-1 patient rooms and bathrooms in G81-06/07. The committee would like to see these requirements coordinated to address the concerns for the occupants in these similar types of facilities.

Assembly Action:

None

Final Hearing Results

E48-07/08

AS

Code Change No: **E51-07/08**

Original Proposal

Sections: 1008.1.8.6 (New) [IFC [B] 1008.1.8.6 (New)]

Proponent: John Williams, Construction Review Services, Washington State Department of Health, Emory Rogers, Virginia Department of Housing and Community Development, John Neff City of Lacey, WA, representing Washington State Building Code Council

Add new text as follows:

1008.1.8.6 (IFC [B] 1008.1.8.6) Special locking arrangements in Group I-2. Where the clinical needs of patients require the restraint of movement, locks shall be permitted on doors within the means of egress, provided that:

1. The building is equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1, and an approved automatic fire alarm system in accordance with Section 907.
2. The doors unlock upon actuation of the automatic fire alarm system, or, upon the loss of power to the lock or lock mechanism.
3. The doors are capable of being unlocked by a signal from a switch at a nurse station or other approved location.
4. An electronic device, such as a keypad and code, is provided adjacent to each door equipped with a lock. Such device shall deactivate the door locking mechanism and permit operation of the door. Instructions for exiting shall be posted within six feet of the door.
5. All clinical staff shall have the codes or other means necessary to operate the device in Item #4.

Reason: This change provides a much needed option for facilities that house dementia and Alzheimer's patients. There is a reoccurring issue with elopement of dementia patients. Facilities that house these patients face significant challenges in maintaining a safe and secure environment for these patient types within the framework of the building code. The States of Washington and Virginia have amended the building code with similar special provisions for dementia control. The conditions that allow this special locking arrangement provide a measured approach to life safety, similar to delayed egress. We use this as a practical solution to a real world problem.

There were three proposals last cycle that dealt with this concept, all were defeated by the committee. Two changes were turned down in favor of a third amendment (G83-06/07) that was almost identical to this one. The committee turned down G83-06/07 due to concerns that patients would learn to pull the fire alarm to get out of the building. An existing exception to IBC 907.2.6 allows the fire alarm pulls to be located at nurse stations and other constantly staff attended locations, which mitigates this concern.

To address other committee concerns: We believe that while there may be occupancies that may house these types of patients, it is clear that Group I-2 definitely houses these patients. The purpose of this change is targeted towards a verifiable condition. The committee preferred the language "clinical staff" as opposed to "all staff". This change has been made

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proponent requested disapproval based on the committee actions to E44-07/08 and E49-07/08. They intend to work with the Code Technologies Committee Care Facility task group to address this issue.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Paul K. Heilstedt, PE, FAIA, Chair, representing ICC Code Technology Committee (CTC) requests Approval as Modified by this public comment.

Replace proposal as follows:

1008.1.8.6 (IFC [B] 1008.1.8.6) Special locking arrangements in Group I-2. Approved delayed egress locks shall be permitted in a Group I-2 occupancy where the clinical needs of persons receiving care require such locking. Delayed egress locks shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center, a nursing station or other approved location.
4. The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the *International Fire Code*.
5. All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.
6. Emergency lighting shall be provided at the door.

Exception: Items 1 through 3 shall not apply to doors to areas where persons which because of clinical needs require restraint or containment as part of the function of a mental hospital.

[Renumber subsequent sections]

Commenter's Reason: As noted in the reason for disapproval, the proponent recognized that this issue falls within the scope of the CTC area of study entitled "Care Facilities". The CTC care facility study group invited the interested stakeholders to discuss how best to address locking arrangements necessary to both balance the needs of the facility as well as the life safety of the occupants. The proposed revisions are fundamentally based on the current provisions of Section 1008.1.8.6, with the exception of items 4 and 5 which have been replaced by items 4, 5 and 6.

Items 4 and 5 in current Section 1008.1.8.6 require an audible signal to be initiated in the event of the delayed egress lock being activated. This is reasonable for occupancy Groups A, E and H, however, there are special considerations necessary where the occupants are in different environments in Group I-2 hospitals. Such audible signals are considered as nuisance alarms in areas where the patients are under a form of restraint and as such they have been replaced by items 4, 5, and 6 which provides a reasonable mechanism to monitor and allow the unlocking system to be activated.

Hospitals which contain patients with mental disabilities present even more of a challenge in that they need to be restrained and/or contained for their own safety. For these occupancies, it is imperative that the level of restraint be maintained even if the fire protection systems are activated. However, in order to provide the necessary life safety features which would allow for such patients to be evacuated, the emergency planning and preparedness plan must be developed to allow for such evacuation (Item 5) and the clinical staff have the ability to monitor and enable the evacuation (Item 6).

Code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April/2005, the CTC has held fifteen meetings - all open to the public. This public comment is a result of the CTC's investigation of the area of study entitled "Care Facilities". The CTC web page for this area of study is: <http://www.iccsafe.org/cs/cc/ctc/care.html>

Final Hearing Results

E51-07/08

AMPC1

Code Change No: **E52-07/08**

Original Proposal

Sections: 1008.1.8.8 (New) [IFC [B] 1008.1.8.8 (New)]

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Add new text as follows:

1008.1.8.8 (IFC [B] 1008.1.8.8) Locking arrangements in correctional facilities. In occupancies in Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S within correctional and detention facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked when equipped with egress control devices which shall unlock manually and by at least one of the following means:

1. Activation of an automatic sprinkler system installed in accordance with Section 903.3.1.1,
2. Activation of an approved manual alarm box, or
3. A signal from a constantly attended location.

Reason: This section permits the locking of means of egress doors in areas within penal facilities that contain occupancies in Use Groups A-2, A-3, A-4, B, E, F, I-2, M and S, which are occupied by persons who must be restrained for security reasons. In Section 410.2, the code provides for locking of doors in the means of egress in mixed occupancies containing a Group I-3 use area. Correctional and detention facilities, however, often are a complex of buildings that do not necessarily have a Group I-3 classification in each building, but one which still require high levels of security throughout. This section is intended to regulate those areas. All locking devices must be capable of manual unlocking by at least one of the egress control devices specified. Such arrangements are deemed satisfactory to permit prompt egress for the building occupants because correctional and detention facilities are ordinarily continuously staffed with trained personnel. Further, the provisions for backup by activation of an automatic sprinkler system, activation of an approved manual alarm box, or unlocking from a constantly attended location, provide additional life safety measures. Note that in order to utilize this section, an automatic sprinkler system or manual alarm system is not required to be provided.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: A concern may be if this could be considered to conflict with Section 1008.1.8.3 Item 1.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The requirements in Chapter 4 for Group I-3 do not address a campus type setting. The proposed language fills that void.

Assembly Action:

None

Final Hearing Results

E52-07/08

AS

Code Change No: **E53-07/08**

Original Proposal

Sections: 1008.1.9, 1008.1.9.1 (New), 1008.1.9.2 (New) [IFC [B] 1008.1.9, [B] 1008.1.9.1 (New), [B] 1008.1.9.2 (New)]

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

1008.1.9 (IFC [B]1008.1.9) Panic and fire exit hardware. ~~Where panic and fire exit hardware is installed, it shall comply with the following:~~

- ~~1. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.~~
- ~~2. The maximum unlatching force shall not exceed 15 pounds (67 N).~~

Each door in a means of egress from a Group A or E occupancy having an occupant load of 50 or more and any Group H occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.8.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit or exit access doors shall be equipped with panic hardware ~~and or fire exit hardware~~. The doors shall swing in the direction of egress travel.

1008.1.9.1 (IFC [B] 1008.1.9.1) Installation. Where panic or fire exit hardware is installed, it shall comply with the following:

1. The actuating portion of the releasing device shall extend at least one-half of the door leaf width; and
2. The maximum unlatching force shall not exceed 15 pounds (67 N)

1008.1.9.2 (IFC [B] 1008.1.9.2) Balanced doors. If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

Reason: Section 1008.1.9 intends to require panic hardware or fire exit hardware under certain conditions, then, specify requirements for their installation including maximum unlatching forces. The current language, however, specifies the installation requirements prior to establishing when panic hardware or fire exit hardware is required. The proposal rearranges the language by stating when panic or fire exit hardware is required, then, stating their installation requirements.

Section 715.4 on fire door and shutter assemblies requires compliance with NFPA 80 and Section 6.4.4.1 of NFPA 80-07 effectively limits locks and latches on fire doors to labeled locks and latches and labeled fire exit hardware. Thus, panic hardware is prohibited on fire doors. Panic hardware and fire exit hardware are permitted to meet the requirements of Section 1008.1.9 on nonrated means of egress doors but only fire exit hardware is permitted to meet the same requirements on means of egress doors that are also fire doors. Based on this, the proposal adds fire exit hardware as an option to the requirement for panic hardware at electrical rooms.

The other changes are primarily editorial and to better correlate Section 1008.1.9 with the other provisions of Chapter 10. "Must" is changed to "shall" to eliminate nonmandatory language. "Exit access doors" is changed to "exit or exit access doors" so that means of egress doors in the exit are not excluded from the applicable requirements and to better correlate with the provisions of Section 1015 on exit and exit access doorways. A means of egress door from an electrical room could be an exit door as readily as an exit access door. "Egress" is changed to "egress travel" to correlate with similar language in Section 1008.1.2 on door swing.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal clarifies the difference between panic and fire exit hardware. Fire exit hardware is panic listed for fire door assemblies. This coordinates with NFPA 80. The reorganization puts scoping before technical requirements which makes more sense.

Assembly Action:

None

Final Hearing Results

F53-07/08

AS

Code Change No: E54-07/08

Original Proposal

Sections: 1008.1.9, Chapter 35 (New) (IFC [B] 1008.19, Chapter 45 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

1008.1.9 (IFC [B] 1008.1.9) Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. Panic hardware shall be listed in accordance with UL 305.
2. Fire exit hardware shall be listed in accordance with UL 10C and UL 305.
- 4.3. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
2. ~~The maximum unlatching force shall not exceed 15 pounds (67 N).~~

Each door in a means of egress from a Group A or E occupancy having an occupant load of 50 or more and any Group H occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.8.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit access doors shall be equipped with panic hardware and doors shall swing in the direction of egress.

If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

2. Add standard to Chapter 35 (IFC Chapter 45) as follows:

Underwriters Laboratories

305-07 Panic Hardware

Reason: This proposal is intended to simplify code enforcement related to approval of panic hardware by requiring it to be listed in accordance with UL 305. For many years panic and fire exit hardware has been listed in accordance with this standard, and over 60 companies have their panic hardware listed and over 40 companies have their fire exit hardware listed.

UL 305 includes a comprehensive set of construction and performance requirements that verify that this important life safety product operates as intended. This includes endurance, emergency operation, elevated ambient exposure, and low temperature impact tests.

The standard currently includes a requirement for the release mechanism to be constructed so that a horizontal force of 15 pounds (66 N) or less will actuate the actuating bar and latches when the door is latched. This requirement (item 2) is being deleted from the body of the code since the listed panic hardware has already been investigated to verify it already meets this criteria.

ANSI/UL 305 is an ANSI approved standard.

Cost Impact: The code change proposal will not increase the cost of the construction.

Analysis: A review of the standard proposed for inclusion in the code, UL 305-07, for compliance with ICC criteria for referenced standards given in Section 3.6. of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Public Hearing Results

Note: The following analysis was not in the Code Change Proposal book but was posted on the ICC website.

Analysis: Review of proposed new standard UL-305 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:**Approved as Modified**

Modify the proposal as follows. Maintain current Exception 2 as new Exception 4.

1008.1.9 (IFC [B] 1008.1.9) Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. Panic hardware shall be listed in accordance with UL 305.
2. Fire exit hardware shall be listed in accordance with UL 10C and UL 305.
3. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
4. The maximum unlatching force shall not exceed 15 pounds (67 N).

Each door in a means of egress from a Group A or E occupancy having an occupant load of 50 or more and any Group H occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.8.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit access doors shall be equipped with panic hardware and doors shall swing in the direction of egress.

If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

(Portions of proposal not shown remain unchanged)

Committee Reason: The modification to keep the current Exception 2 for the 15 pounds force should be maintained in the code for several reasons. If UL305 is revised, the building code would still control the force required for panic hardware. The code official may not have a copy of UL305. The International Fire Code is partially a maintenance code, so they need the pounds force in the text. Putting the UL 305 specification into the code provides good guidance in the code for panic hardware requirements. See E53-07/08 for reorganization of this section.

Assembly Action:**None**

Final Hearing Results

E54-07/08

AM

Code Change No: E55-07/08

Original Proposal

Sections: 1008.1.9 (IFC [B] 1008.1.9)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

1008.1.9 (IFC [B] 1008.1.9) Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
2. The maximum unlatching force shall not exceed 15 pounds (67 N).

Each door in a means of egress ~~from~~ serving a Group A or E occupancy ~~having~~ with an occupant load of 50 or more ~~and any or a~~ Group H occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.8.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit access doors shall be equipped with panic hardware and doors shall swing in the direction of egress.

If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

Reason: For Group A and E occupancies, the current language limits the requirement for panic hardware or fire exit hardware to means of egress from the occupancy, thus, exempting the means of egress within the Group A or E occupancy from the requirement. This is not the intent and the proposal corrects this oversight.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language clarifies that panic hardware is required at intervening doors as well as doors leading from spaces.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Lori Lee Graham, City of Portland, OR, representing herself, requests Approval as Modified by this public comment.

Modify proposal as follows:

1008.1.9 (IFC [B] 1008.1.9) Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
2. The maximum unlatching force shall not exceed 15 pounds (67 N).

~~Each door in a means of egress serving a Group A or E occupancy with an occupant load of 50 or more or a Group H occupancy. Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock unless it is panic hardware.~~

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.8.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit access doors shall be equipped with panic hardware and doors shall swing in the direction of egress.

If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

Commenter's Reason: The intent of Public Comment is an editorial improvement. As approved by the committee, the section would require that all doors in an A or E occupancy over 50 would need panic hardware. This would include rooms within the A or E occupancy that individually have less than 50 occupants. The revision changes it to requiring panic hardware where the room or space has 50 occupants. It retains the original proponents "serving" so that it is the whole chain of doors from the space to the exit.

Final Hearing Results

E55-07/08

AMPC

Code Change No: **E57-07/08**

Original Proposal

Sections: 1009.2 (IFC [B] 1009.2); IRC R311.5.2

Proponent: David W. Cooper, Stairway Manufacturers' Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

Revise as follows:

1009.2 (IFC [B] 1009.2) Headroom. Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing that is available for placement of the foot in ascent or descent.

Exceptions:

1. Spiral stairways complying with Section 1009.8 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically.

PART II – IRC BUILDING AND ENERGY

Revise as follows:

R311.5.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2036 mm) measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway that is available for placement of the foot in ascent or descent.

Exception: The edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically.

Reason: Part I- IBC -This is a required change to assure consistent code enforcement and compliance and eliminate the possibility of entrapment. The change to the charging paragraph supports current enforcement policies around the country and more clearly states the intent of the code. Headroom is simply not required where you cannot walk. The code currently allows extending the line of measurement beyond the limit of the "walkable" surface causing legal issues in court interpretations and provides no additional level of safety for the user. Nosings of treads on open stairs most often over lap the supporting wall and stringer below. This supporting wall is placed under the opening above in alignment with the edge of the opening below (see diagram 1) and in the strictest sense of the code as worded now would trigger a headroom violation as successive treads approached the ceiling of the floor above.

The reason for the exception is best illustrated in the photographs attached. The reasons for the exception are also soundly rooted in the most common current application of the code. This necessary alignment of the walls in relation to the edge of the floor openings is understood and not interpreted as a headroom violation in most jurisdictions. There is currently no limit however to the effective projection that is being allowed. Moving the handrails or guards in onto the stairs narrows the exit path unnecessarily without eliminating the current codes literal headroom violation and can create an undesired climbable surface beyond the guard. This code change puts the necessary limits in place and provides an additional level of safety by:

1. Standardizing the most commonly understood current enforcement policies for headroom.
2. Addressing needed prevention of entrapment of an appendage or object being carried in ascent in the narrowing space that is formed when an angled guard or handrail approaches intersection with the ceiling of the next floor or level above. (See photos 1 & 2)
3. Recognizing the standard methods of construction used in the placement and framing of supporting walls and floor systems associated with the perimeter of the openings for stairways. (See diagrams1) In particular it specifies a maximum projection into the headroom space that is based upon the required attachment of a guard/handrail system to the face of a supporting wall sitting solidly on the floor system and limits it to the nominal width of a finished 2 x 4 wall.
4. Allowing the currently accepted methods to transfer stairway loads to the surrounding structure and space saving stacking of stairs and landings in wells without adding juxtaposition support walls that would narrow the stairwells below if the edge of the stair and supporting wall were moved from under the opening above.
5. Allowing the guards and handrails to be positioned such as to widen the stairway in descent, the most common egress direction. (See photos 1 & 2)
6. Allowing the secure attachment of the end of guard/handrail systems providing for the required transfer of loads to the structure.

Part II-IRC: This is a required change to assure consistent code enforcement and compliance and eliminate the possibility of entrapment. The change to the charging paragraph supports current enforcement policies around the country and more clearly states the intent of the code. Headroom is simply not required where you cannot walk. The code currently allows extending the plane of measurement beyond the limit of the “walkable” surface causing legal issues in court interpretations and provides no additional level of safety for the user. Nosings of treads on open stairs most often over lap the supporting wall and stringer below. This supporting wall is placed under the opening above in alignment with the edge of the opening below (see diagram 1) and in the strictest sense of the code as worded now would trigger a headroom violation as successive treads approached the ceiling of the floor above.

The reason for the exception is best illustrated in the photographs attached. The reasons for the exception are also soundly rooted in the most common current application of the code. This necessary alignment of the walls in relation to the edge of the floor openings is understood and not interpreted as a headroom violation. There is currently no limit however to the effective projection that is being allowed. Moving the handrails or guards in onto the stairs narrows the exit path unnecessarily without eliminating the current codes literal headroom violation and can create an undesired climbable surface beyond the guard. This code change puts the necessary limits in place and provides an additional level of safety by:

1. Standardizing the most commonly understood current enforcement policies for headroom.
2. Addressing needed prevention of entrapment of an appendage or object being carried in ascent in the narrowing space that is formed when an angled guard or handrail approaches intersection with the ceiling of the next floor or level above. (See photos 1 & 2)
3. Recognizing the standard methods of construction used in the placement and framing of supporting walls and floor systems associated with the perimeter of the openings for stairways. (See diagram1) In particular it specifies a maximum projection into the headroom space that is based upon the required attachment of a guard/handrail system to the face of a supporting wall sitting solidly on the floor system and limits it to the nominal width of a finished 2 x 4 wall.
4. Allowing the currently accepted methods to transfer stairway loads to the surrounding structure and space saving stacking of stairs and landings in wells without adding juxtaposition support walls that would narrow the stairwells below if the edge of the stair and supporting wall were moved from under the opening above.
5. Allowing the guards and handrails to be positioned such as to widen the stairway in descent, the most common egress direction. (See photos 1 & 2)
6. Allowing the secure attachment of the end of guard/handrail systems providing for the required transfer of loads to the structure.



Photo 1

Photo 2

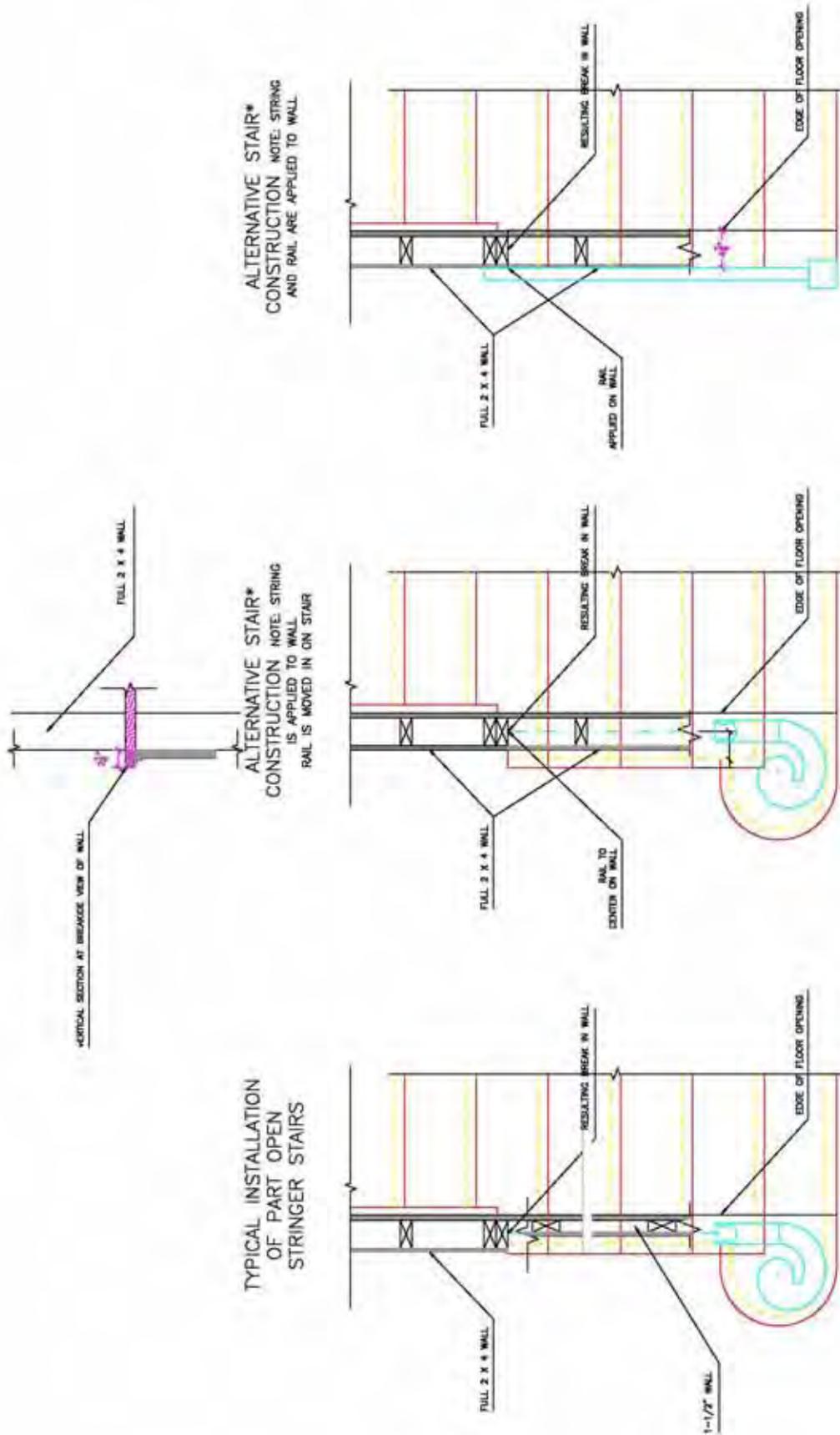


Diagram 1 – TYPICAL WALL SECTIONS AT STAIRS IN PLAN VIEW

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action:

Disapproved

Committee Reason: The proposed language is ambiguous. Indicating that the minimum clearance is required for the full length of the stairway would be clearer.

Assembly Action:

None

PART II – IRC-B/E

Committee Action:

Approved as Submitted

Committee Reason: The proposal adds clarity on how to measure headroom in relation to stairways in relation to established walk lines. Further, the committee supported the new exception that provides a new method for addressing guards and railings on open sides of stairways.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

David W. Cooper, Stairway Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify Part I of proposal as follows:

1009.2 (IFC [B] 1009.2) Headroom. Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing ~~that is available for placement of the foot in ascent or descent.~~

Exceptions:

1. Spiral stairways complying with Section 1009.8 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; ~~the edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically. Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4-3/4 inches (121 mm).~~

Commenter's Reason – Part I: The modification addresses the committees concerns and clarifies the intent of the exception by removing language that could be incorporated in the handrail and guard sections in the next cycle. The need for this residential exception is well illustrated in the photos offered with the original proposal. This is a common situation in residential construction that allows the guard to terminate securely in the end of a wall at the side of a well opening for a stair. The modification clearly reflects the most commonly accepted interpretation of headroom compliance when a flight of stairs widens at the bottom and the nosings extend under the ceiling above beyond the upper stair width. The proposal further improves the code by and limiting the projection to no more than 4¾ inches, the width of a finished 2 X 4 wall. Approval as modified would support the action taken by the IRC committee.

This item is on the agenda for individual consideration because a public comment was submitted for Part II.

Public Comment:

David W. Cooper, Stairway Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify Part II of proposal as follows:

R311.5.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2036 mm) measured vertically from the sloped ~~plane~~ line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway ~~that is available for placement of the foot in ascent or descent.~~

~~Exception: The edge of a floor opening shall be permitted to project 4.75 inches (121 mm) maximum into the required headroom where guards or handrails on open sides of stairways below are located beyond the edge of the opening, provided that all required stairway widths are provided and the space between the top of an angled guard or handrail and the bottom of the projection shall not narrow to less than 6 inches (152 mm) measured vertically. Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4-3/4 inches (121 mm).~~

Commenter's Reason – Part II: The committee approved the original proposal but asked that we clarify the original language submitted by public comment. The modification addresses the committees concerns and clarifies the intent of the exception by separating language that can be incorporated in the handrail and guard sections in the next cycle. The need for this residential exception is well illustrated in the photos offered with the original proposal. This is a common situation in residential construction that allows the guard to terminate securely in the end of a wall at the side of a well opening for a stair. The modification clearly reflects the most commonly accepted interpretation of headroom compliance when a flight of stairs widens at the bottom and the nosings extend under the ceiling above beyond the upper stair width. The proposal further improves the code by limiting the projection to no more than 4¾ inches, the width of a finished 2 X 4 wall.

Final Hearing Results

**E57-07/08, Part I
E57-07/08, Part II**

**AMPC
AMPC**

Code Change No: E58-07/08

Original Proposal

Sections: 1009.3, 1009.3.2 (IFC [B] 1009.3, 1009.3.2); IRC R311.5.2.3 (New), R311.5.3.2

Proponent: David W. Cooper, Stairway Manufacturers' Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

Add new text as follows:

1009.3 (IFC [B] 1009.3) Walk line. The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent.

Revise as follows:

1009.3 (IFC [B] 1009.3) 1009.4 (IFC [B] 1009.4) Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. ~~Stair tread depths shall be 11 inches (279 mm) minimum.~~ The riser height shall be measured vertically between the leading edges of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth used for placement of the foot ascent or descent of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.
3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
5. See the Section 3403.4 for the replacement of existing stairways.

~~1009.3.1 (IFC [B] 1009.3.1)~~ 1009.4.1 (IFC [B] 1009.4.1) Winder treads. (No change to text)

~~1009.3.2 (IFC [B] 1009.3.2)~~ 1009.4.2 (IFC [B] 1009.4.2) Dimensional uniformity. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 0.375 inch (9.5 mm) in any flight of stairs. The greatest winder tread depth at the ~~42-inch (305 mm)~~ walk line within any flight of stairs shall not exceed the smallest by more than 0.375 inch (9.5 mm) ~~measured at a right angle to the tread's leading edge.~~

Exceptions:

1. Nonuniform riser dimensions of aisle stairs complying with Section 1025.11.2.
2. Consistently shaped winders, complying with Section 1009.3, differing from rectangular treads in the same stairway flight.

Where the bottom or top riser adjoins a sloping publicway, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of stairway width. The nosings or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other nosing marking provided on the stair flight. The distinctive marking stripe shall be visible in descent of the stair and shall have a slip-resistant surface. Marking stripes shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm).

~~1009.3.3 (IFC [B] 1009.3.3)~~ 1009.4.3 (IFC [B] 1009.4.3) Profile. (No change to text)

PART II – IRC BUILDING AND ENERGY**Revise as follows:**

R311.5.2.3 Walk line. The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent.

R311.5.3.2 Tread depth. The minimum tread depth shall be 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line ~~as above at a point 12 inches (305 mm) from the side where the treads are narrower.~~ Winder treads shall have a minimum tread depth used for placement of the foot in ascent or descent of 6 inches (152 mm) at any point. Within any flight of stairs, the largest winder tread depth at the ~~42-inch (305 mm)~~ walk line shall not exceed the smallest winder tread by more than 3/8 inch (9.5 mm).

Reason: PART I – IBC**Need for Improvement:**

Current regulation of the placement of the walk line varies for lack of a specific point from which to measure. The tread depth measured at the walk line therefore varies from one enforcement jurisdiction to another sometimes even within a jurisdiction. The complications of varying

interpretations of this part of the code have lead to costly hearings and appeals for variances. The industry needs a standard as do code officials but more importantly the people walking these stairs need a standard as well that will provide consistency in the built environment. In this effort the Stairway Manufacturers' Association has offered several proposals over the years that have met with an agreement by the committees involved that a *standard is needed* but with certain objections. Each proposal in succession has improved utilizing the critical direction obtained from the committees in the code development process and in meetings with code officials around the country.

Separate Section on Walk Line is Needed:

The walk line is a critical element of stair design just as are width, headroom, rise and run. The separation of this element draws attention to the need to meet this requirement in the planning stage rather than being buried within the code. This allows for further specifics for location and simplification of the subsequent sections relative to tread depth. Finally although the term walk line has been used for years with in the code text on tread depth, this section offers a clear understanding.

What is the "Walk Line":

The walk line is related to the person's position *when walking on the stair* and is that line which the inside foot follows when *walking on a stair* and therefore this proposal states that the walk line shall be established based only on that portion of the treads in a flight that can be walked on. Any portion of a tread that cannot be walked on does not require regulation by this section. The extension of the tread or its size beyond the "walkable" area, whether for structural attachment or decorative purpose, is not necessary to the regulation of tread depth for the safety of the user.

Ease of enforcement:

In this proposal the location of the walk line is simply determined by measuring onto the tread at the front of each tread from the point of minimum tread depth because the walk line is defined as being parallel to the side of the flight. This represents no change in the common practice to measure at the leading edge or nosing of the tread and no longer will require a square across the tread depth to accurately determine the winder tread depth at the walk line.

Simplification of the IBC Tread Related Sections:

No changes in any of the specified dimensions are being made. The first change is to only move the tread depth requirement to allow the riser requirements to appear together. The word "rectangular" used in exception 2 of the dimensional uniformity exception has been added to clarify. The way in which the winder treads will be measured is changed to match the way they are laid out to be uniform. This does not affect typical two or three winder layouts that are typically much deeper than the rectangular treads they are paired with in a flight and more closely reflects the foot positions in both ascent and descent as a person turns while walking on the stair. At the same time this allows for an easier method of accurately measuring the tread depth without the use of a square across the depth of the winder tread. The minimum winder tread depth is now clarified by reflecting the most common enforcement convention and is to be measured on that portion of the stair-walking surface that is actually used for walking as is in the new walk line section.

The Dimensional uniformity section has been edited for simplification because these terms are now clearly stated in the new walk line section.

PART II-IRC

Need for Improvement:

Current regulation of the placement of the walk line varies for lack of a specific point from which to measure. The tread depth measured at the walk line therefore varies from one enforcement jurisdiction to another sometimes even within a jurisdiction. The complications of varying interpretations of this part of the code have lead to costly hearings and appeals for variances. The industry needs a standard as do code officials but more importantly the people walking these stairs need a standard as well that will provide consistency in the built environment. In this effort the Stairway Manufacturers' Association has offered several proposals over the years that have met with an agreement by the committees involved that a standard is needed but with certain objections. Each proposal in succession has improved utilizing the critical direction obtained from the committees in the code development process and in meetings with code officials around the country.

Separate Section on Walk Line is Needed:

The walk line is a critical element of stair design just as are width, headroom, rise and run. The separation of this element draws attention to the need to meet this requirement in the planning stage rather than being buried within the code. This allows for further specifics for location and simplification of the subsequent sections relative to tread depth. Finally although the term walk line has been used for years with in the code text on tread depth, this section offers a clear understanding.

What is the "Walk Line":

The walk line is related to the person's position when walking on the stair and is that line which the inside foot follows when walking on a stair and therefore this proposal states that the walk line shall be established based only on that portion of the treads in a flight that can be walked on. Any portion of a tread that cannot be walked on does not require regulation by this section. The extension of the tread or its size beyond the "walkable" area, whether for structural attachment or decorative purpose, is not necessary to the regulation of tread depth for the safety of the user.

Ease of enforcement:

In this proposal the location of the walk line is simply determined by measuring onto the tread at the front of each tread from the point of minimum tread depth because the walk line is defined as being parallel to the side of the flight. This represents no change in the common practice to measure at the leading edge or nosing of the tread and no longer will require a square across the tread depth to accurately determine the winder tread depth at the walk line.

Simplifications of the IRC Tread Related Sections:

No changes in any of the specified dimensions are being made. The way in which the winder treads will be measured is changed to match the way they are laid out to be uniform. This does not affect typical two or three winder layouts that are typically much deeper than the rectangular treads they are paired with in a flight and more closely reflects the foot positions in both ascent and descent as a person turns while walking on the stair. At the same time this allows for an easier method of accurately measuring the tread depth without the use of a square across the depth of the tread winder. The minimum winder tread depth is now clarified by reflecting the most common enforcement convention and is to be measured on that portion of the stair-walking surface that is actually used for walking as is in the new walk line section.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action:

Disapproved

Committee Reason: The committee felt that Section 1009.3 for the 'walk line' is a definition and would be better placed in Section 1002. The current way to measure the stairs has been used for years and is precise. The proposed language in Section 1009.4 would add ambiguity. The measurements proposed in Section 1009.4 does not specify which angle to which tread, so it is unclear

Assembly Action:

None

PART II – IRC B/E**Committee Action:****Disapproved**

Committee Reason: The proposed language does not improve the current code language for stairways. The committee felt that the definition for walk line should be placed in Section 202. Further, the committee felt the language appeared to be more consistent with commentary rather than code charging text.

Assembly Action:**None**
Public Comments
Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

1009.3 (IFC [B] 1009.3) Walk line. ~~The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent. The walk line across winder treads shall be concentric to the direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12 inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.~~

1009.4 (IFC [B] 1009.4) Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line and a minimum tread depth ~~used for placement of the foot ascent or descent~~ of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.
3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
5. See the Section 3403.4 for the replacement of existing stairways.

Commenter's Reason – Part I: The modification addresses the concerns of all the committees over several cycles of the code of a need to standardize the walk line location at winder treads. The SMA has consistently listened to their feedback for many years in an effort to address the problem. Attempts made to relate the walk line to the handrail or the guard "in fill" at the side of the stair have met with disapproval but further direction from each committee. At the CDH in Palm Springs the IBC committee gave insightful information suggesting that the walk line could be related to the width of the stair. This modification clearly states that relationship and adds further clarity.

The IRC committee had issues with the terminology "used for placement of the foot..." and that has been stricken. The new section titled walk line states clearly and specifically how to locate the walk line at winder treads where it is used to determine the tread depth of winder tread(s) that provide for turning of the stair's direction of travel. This line of travel across winders is a curved path and the walk line established for regulation must parallel it. The term concentric is used because it more accurately describes the geometry of parallel arcs or curves sharing the same center. This separate section substantiates this essential element required in the design and construction of stairs that turn. It further provides clarity for regulating its location that is not subject to the wide interpretation of the present code and thereby allows for the direct reference to walk line in subsequent sections of the code. Please also see the original supporting statement for further substantiation of these changes.

The simple steps to determine compliance are:

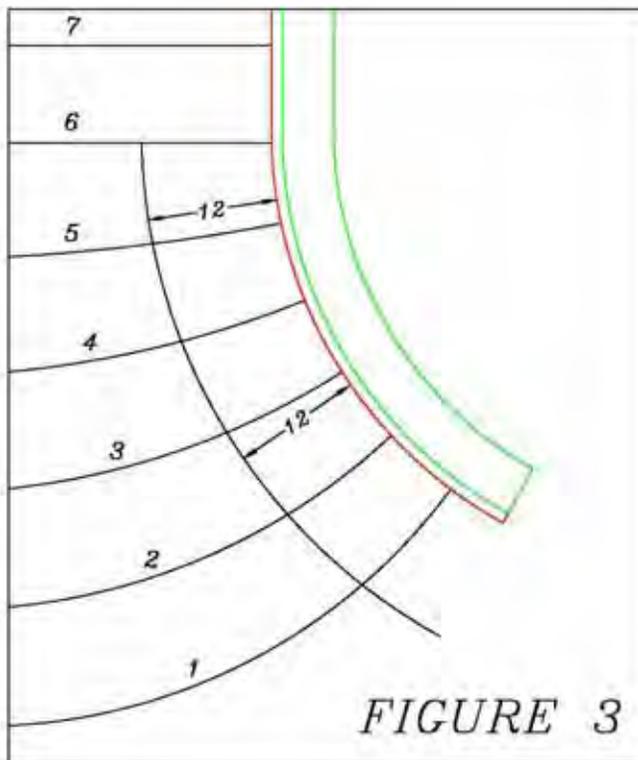
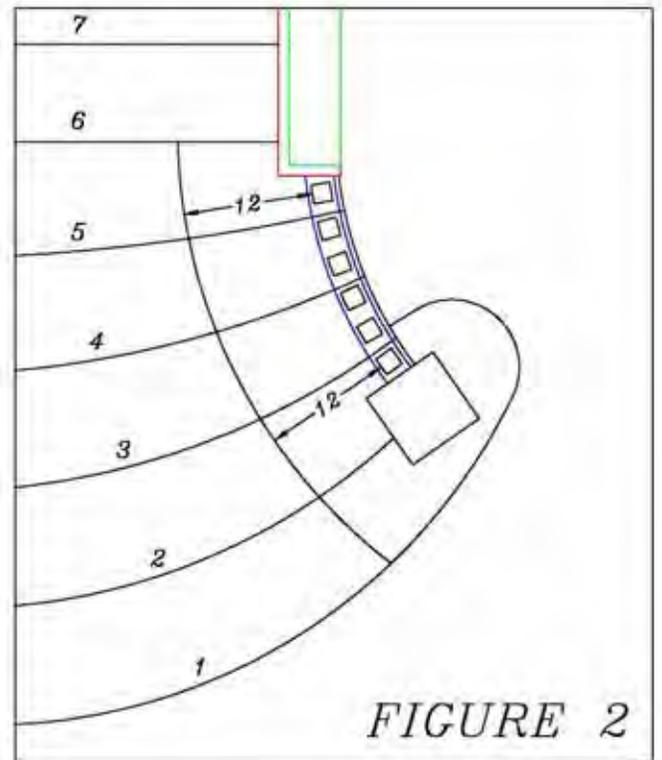
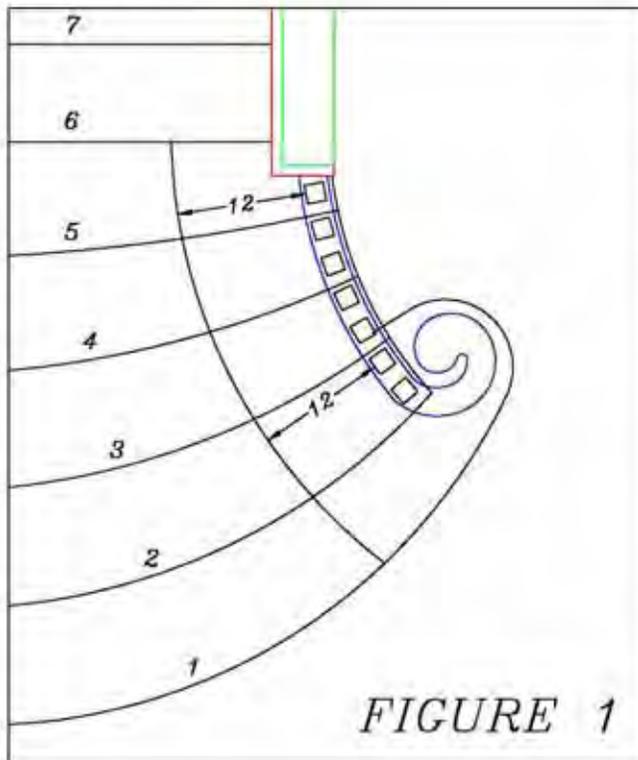
Locate the winder treads in the turn of the stair.

1. Locate the side of the stair where the winder treads are narrower
2. Establish the widest point of clear width of the stair at the surface of the winder or run of adjacent winders
3. Measure across the stair width 12 inches from the object that restricts the clear width at the tread surface
4. Measure tread depth between the intersections of the nosings with the walk line.

Measuring the tread depth at the intersections with the walk line provides for consistent winders that are uniform in depth at the most common path of travel.

The Figures 1, 2 & 3 Illustrate common situations in determining the walk line when walls, posts, and balusters/in-fill or combinations of each are located at winder treads. The specification works for any of these situations and assures that the walk line is located as close to the narrow end of the tread as is possible to use. By keeping the walk line closest to the narrow end it assures that the tread is as wide as necessary for safe walking within the width of the stair that is intended and available to use. The 12 inch dimension in the code was determined by measuring the location of a person on a stair while grasping a handrail and is intended to be measured on that portion of the stair that can be used. Portions of winder treads not located within the clear width of the stair do not need to be considered.

For those that wish to offer guidance on complying winder treads at the initial rough inspection it is important to note that this is no more difficult to regulate during the rough stage of inspection than is the width of the stair and probably much easier than regulating the required riser height. In fact the minimum finished clear stair width could easily be determined by marking the place on the rough winder tread where the minimum walk line depth occurs on the rough tread and measuring 12 inches from that location toward the side where the treads are narrower.



Figures 1, 2, & 3 show common walk line locations as determined by the modification. The walk line, balusters, post, and tread nosings are in black. The wall is green and the skirt board or finish stringer is in red.

This item is on the agenda for individual consideration because a public comment was submitted for Part II.

Public Comment:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

R311.5.2.3 Walk line. ~~The walk line is the line of travel used to provide for uniform layout of the tread depths in the design and regulation of flights with winder treads. The walk line shall be parallel to the side of the flight where the treads are narrowest and located 12 inches (305 mm) from the point of minimum tread depth used for placement of the foot on the flight in ascent or descent. The walk line across winder treads shall be concentric to the curved direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12 inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.~~

R311.5.3.2 Tread depth. The minimum tread depth shall be 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walk line. Winder treads shall have a minimum tread depth ~~used for placement of the foot ascent or descent~~ of 6 inches (152 mm) at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walk line shall not exceed the smallest winder tread by more than 3/8 inch (9.5 mm).

Commenter-s Reason – Part II: (See Part I reason and figures.)

Final Hearing Results

E58-07/08, Part I	AMPC
E58-07/08, Part II	AMPC

Code Change No: E60-07/08

Original Proposal

Sections: 1009.3, 1009.3.1 (IFC [B] 1009.3, [B] 1009.3.1); IRC R311.5.3

Proponent: David W. Cooper, Stairway Manufacturers' Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS

1. Add new text as follows:

1009.3 (IFC [B] 1009.3) Stair treads and risers. Stair treads and risers shall comply with Sections 1009.3.1 through 1009.3.5.

1009.3.1 (IFC [B] 1009.3.1) Dimension reference surfaces. For the purpose of the section, all dimensions are exclusive of carpets, rugs, or runners.

2. Revise as follows:

~~**1009.3 (IFC [B] 1009.3) Stair treads and risers**~~ **1009.3.2 (IFC [B] 1009.3.2) Riser height and tread depth.** Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent

treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.
3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
5. See the Section 3403.4 for the replacement of existing stairways.

~~1009.3.1 (IFC [B] 1009.3.1)~~ 1009.3.3 (IFC [B] 1009.3.3) **Winder treads.** (No change to text)

~~1009.3.2 (IFC [B] 1009.3.2)~~ 1009.3.4 (IFC [B] 1009.3.4) **Dimensional uniformity.** (No change to text)

~~1009.3.3 (IFC [B] 1009.3.3)~~ 1009.3.5 (IFC [B] 1009.3.5) **(Supp) Profile.** (No change to text)

PART II – IRC BUILDING AND ENERGY

Revise text as follows:

R311.5.3 Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section all dimensions and dimensioned surfaces shall be exclusive of carpets, rugs, or runners.

Reason: PART I-IBC- This new section provides for accurate measurements consistent with the intent of the code by standardizing the surfaces to be measured from the dimensions currently described under **1009.3 Treads and risers**. It further makes sense out of the nosing radius and bevel dimensions in **1009.3.3 Profile** as these are not intended to be measured at a carpeted surface.

This clarification would result in more consistent interpretation and enforcement eliminating confusion. In our code seminars around the country I ask how officials determine the riser height if the stair is carpeted. Some have a standard thickness they calculate for the carpet without knowing the thickness that will be used. Others measure in consideration of the compressed thickness and still others wait to pass or fail the stairway based on measuring to the uncompressed surface of a carpet that might change after just a few months use or when it is replaced. We can't have our cake and eat it too. Court battles ensue over such widely interpreted issues that become law upon adoption and in this case should become the sole responsibility of the occupant as they change carpets, rugs, and runners.

Surfaces can easily vary 1 inch or more in thickness when uncompressed carpet and pad is inserted in the calculation of the riser height. The code requires accuracy within 3/8 of an inch and yet it provides for inconsistent measurements and enforcement. The fact is that carpeting is not regulated by the code and cannot be indiscriminately inserted based on widely varying individual interpretation.

Whether the stair is site built or prefabricated the rise of the stair is determined during the rough stage long prior to the selection of carpet for thickness. Prior to layout of the stringer you must know what thickness treads will be used and what materials will be used on the floors. The decision is made to allow the landing tread that meets the floor surface (or also called landing nosing) to be held up to accept floor coverings to abut its back edge or place it flush for carpet to wrap it such that the top riser *should always be the same height as the other stair risers within normal construction tolerances prior to the addition of carpets*. The top and bottom steps should not be controlled based on carpet because the uncontrollable addition of rugs and/or runners at the floors and landings will change at the option of the owners/occupants/residents.

Since carpeting is not controlled by the code then the dimensions of the stair should not be controlled by carpet. The code must provide a product that the end user can rely on regardless of the jurisdiction they decide to live or *walk*. We mislead ourselves if we think that the variants now allowed in measuring the rise on stairs provide for safety. We need to provide a standard the consumer can count on and *walk safely on*. This change provides the needed standard the code now lacks.

PART II-IRC-This new section provides for accurate measurements consistent with the intent of the code by standardizing the surfaces to be measured from the dimensions described under R311.5.3 Treads and risers. It further makes sense out of the nosing radius and bevel dimensions in R311.5.3.3 Profile as these are not intended to be measured at a carpeted surface.

This clarification would result in more consistent interpretation and enforcement eliminating confusion. In our code seminars around the country I ask how officials determine the riser height if the stair is carpeted. Some have a standard thickness they calculate for the carpet without knowing the thickness that will be used. Others measure in consideration of the compressed thickness and still others wait to pass or fail the stairway based on measuring to the uncompressed surface of a carpet that might change after just a few months use or when it is replaced. We can't have our cake and eat it too. Court battles ensue over such widely interpreted issues that become law upon adoption and in this case should become the sole responsibility of the occupant as they change carpets, rugs, and runners.

Surfaces can easily vary 1 inch or more in thickness when uncompressed carpet and pad is inserted in the calculation of the riser height. The code requires accuracy within 3/8 of an inch and yet it provides for inconsistent measurements and enforcement. The fact is that carpeting is not regulated by the code and cannot be indiscriminately inserted based on widely varying individual interpretation.

Whether the stair is site built or prefabricated the rise of the stair is determined during the rough stage long prior to the selection of carpet for thickness. Prior to layout of the stringer you must know what thickness treads will be used and what materials will be used on the floors. The decision is made to allow the landing tread that meets the floor surface (or also called landing nosing) to be held up to accept floor coverings to abut its back edge or place it flush for carpet to wrap it such that the top riser should always be the same height as the other stair risers within normal construction tolerances prior to the addition of carpets. The top and bottom steps should not be controlled based on carpet because the uncontrollable addition of rugs and/or runners at the floors and landings will change at the option of the residents.

Since carpeting is not controlled by the code then the dimensions of the stair should not be controlled by carpet. The code must provide a product that the end user can rely on regardless of the jurisdiction they decide to live or walk. We mislead ourselves if we think that the variants now allowed in measuring the rise on stairs provide for safety. We need to provide a standard the consumer can count on and walk safely on. This change provides the needed standard the code now lacks.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action:

Disapproved

Committee Reason: The allowance to measure riser and tread depth without consideration of the carpeting could result in stairs that exceed the tolerances between the adjoining risers and treads.

Assembly Action:

None

PART II – IRC-B/E

Committee Action:

Approved as Submitted

Committee Reason: The proposed language provides for accurate measurements of the stair tread and riser profiles. Further, establishing that all dimensions and surfaces are measured exclusive of carpets, rugs or runners gives the building official a clear place to measure to.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted for Part I.

Public Comment:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturing Association, requests Approval as Submitted.

Commenter's Reason: This issue was approved by the IRC and deserves consideration in the IBC Final Action hearing. Measuring to carpet that does not exist or is subject to changes made by occupants including the addition of mud and water absorbing carpets so commonly used in public spaces provides no level of additional safety and/or can not be regulated. Providing reference surfaces that are standardized will provide consistency through out the built environment.

Final Hearing Results

E60-07/08, Part I	AS
E60-07/08, Part II	AS

Code Change No: **E62-07/08**

Original Proposal

Sections: 1009.3 (IFC [B] 1009.3)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

1009.3 (IFC [B] 1009.3) Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Spiral stairways in accordance with Section 1009.8.
3. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.
4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
5. See the Section 3403.4 for the replacement of existing stairways.
6. In Group I-3 facilities, stairways providing access to guard towers, observations stations and control rooms, not more than 250 square feet (23 m²) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

Reason: The proposed new Exception 6, applicable to Use Group I-3, allows spaces that are normally occupied by a small number of staff persons to have stairways with greater riser height and narrower tread depth than the standard 7-11 risers/tread requirements. In order to provide the 360-degree visibility and maximum mobility necessary for guard observation stations, the size of the base of such elevated stations must be kept to a minimum. Security is increased without risk to either the general public or the inmates, since access to these spaces is restricted to prison staff personnel.

This incorporates an allowance found in 1996 BOCA Building Code Section 1014.6

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The exception for Group I-3 is in recognition of the unique environment – limited occupant load with people familiar with the space. The code already allows for alternating tread devices. The proposal would allow for a safer means of access and egress.

Assembly Action:

None

Final Hearing Results

E62-07/08

AS

Code Change No: E64-07/08

Original Proposal

Sections: 1009.3.3 (IFC [B] 1009.3.3)

Proponent: David W. Cooper, Stairway Manufacturers' Association

Revise as follows:

1009.3.3 (IFC [B] 1009.3.3) (Supp) Profile. The radius of curvature at the leading edge of the tread shall be not greater than ~~0.5 inch (12.7 mm)~~ 9/16 inch (14.3 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped under the tread above from the underside of the ~~leading edge of the tread~~ nosing above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in F, H and S occupancies other than areas accessible to the public.

Reason: Risers are allowed to slope to provide for nosing projection and necessary heel clearance in descent. The present language does not control the direction in which the riser is allowed to slope. The insertion of the words "under the tread above" provides the clarification needed.

The substitution of the word nosing provides a sentence that is easier to read and understand. The term nosing is a defined term in the code and is further clarified by its use in parenthesis within the text of this section.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The 9/16" dimension recognizes actual construction with a full half round on the front of the tread on a stairway. The proposal recognizes a safety issue that needed to be addressed for riser slope.

Assembly Action:

None

Final Hearing Results

E64-07/08

AS

Code Change No: E66-07/08

Original Proposal

Sections: 1009.3.3 (IFC [B] 1009.3.3)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

1009.3.3 (IFC [B] 1009.3.3) (Supp) Profile. The radius of curvature at the leading edge of the tread shall be not greater than 0.5 inch (12.7 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in F, H and S occupancies other than areas accessible to the public. There are no restrictions on the size of the opening in the riser.

Reason: The additional language is needed for clarification that there are no limits on openings in risers in these unique situations. Exception 2 recognizes that open risers are commonly used for stairs in occupancies such as detention facilities for practical reasons. Open risers provide a greater degree of security and supervision due to the fact that people cannot effectively conceal themselves behind the stair. There is no opening size limitation. These risers can be completely open with no restrictions.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal is appropriate for Group I-3 for areas where direct line of site is important for security reasons.

Assembly Action:

None

Final Hearing Results

E66-07/08

AS

Code Change No: E67-07/08

Original Proposal

Sections: 1009.3.3 (IFC [B] 1009.3.3)

Proponent: Scott Crossfield, Theatre Projects Consultants, Inc., representing himself

Revise as follows:

1009.3.3 (IFC [B] 1009.3.3) (Supp) Profile. The radius of curvature at the leading edge of the tread shall be not greater than 0.5 inch (12.7 mm). Beveling of nosings shall not exceed 0.5 inch (12.7 mm). Risers shall be solid and vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosings) of treads shall project not more than 1.25 inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in F, H and S occupancies other than areas accessible to the public.
3. Solid risers are not required for spiral stairways constructed in accordance with Section 1009.8.
4. Solid risers are not required for alternating tread devices constructed in accordance with Section 1009.9.

Reason: The general requirements for solid risers, as currently stated, are applicable to all stairways. Spiral stairways and alternating tread devices are only used for limited access areas, such as catwalks in theaters, or roof access for maintenance and service personnel. Open risers are necessary for these types of stairways to be constructed safely and efficiently. Sections 1009.8 for spiral stairways and Section 1009.9.2 for alternating tread device do provide specifics for tread and riser dimensions, but do not state if open risers are permitted.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The allowance for open risers on spiral and alternating tread devices is appropriate for safe construction and current practice for these types of stairways.

Assembly Action:

None

Final Hearing Results

E67-07/08

AS

Code Change No: E68-07/08

Original Proposal

Sections: 1009.6 (IFC [B] 1009.6)

Proponent: Robert Bagnetto, Lapeyre Stair Inc.

Revise as follows:

1009.6 (IFC [B] 1009.6) Vertical rise. A flight of stairs shall not have a vertical rise greater than 12 feet (3658 mm) between floor levels or landings.

Exceptions:

1. Aisle stairs complying with Section 1025.
2. Alternating tread devices used as a means of egress shall not have a rise greater than 20 feet (6096mm) between floor levels or landings.

Reason: The purpose of this proposed change to IBC-2006 is to allow a maximum allowable vertical height of 20 feet for alternating tread devices used as a means of egress, without requiring an intermediate landing or platform.

The proposed change is superior to the current provisions of the code in that alternating tread devices may be used in heights up to 20 ft, without the use of an intermediate landing platform. In some instances this eliminates the need for unnecessary components; and potentially improves safety by allowing alternating tread devices to be used in areas with limited horizontal space, where otherwise the only alternative would be to use a vertical ladder.

Alternating tread devices are allowed by the code only as a means of egress to locations that are for use by maintenance/industrial workers (see listing below). Such workers are typically able to climb higher vertical distances than the general public without an intermediate landing. Sections 502 and 505 allow the use of a ladder to access equipment platforms which are also typically used by maintenance/industrial workers. Allowable heights for ladders are not addressed in IBC. OSHA regulations in 29CFR1910.27 allow ladders with cages, wells or safety devices up to 30 feet in height before a landing is required; Ladders without cages, wells or safety devices are allowed up to 20 feet in height before a landing is required. IMC section 306.5 allows ladders up to 30 feet in height without a landing. Alternating tread devices are typically not equipped with cages, wells or safety devices; however they are typically safer than a ladder as they have a larger landing area for the users' feet, side rails that act as a guard and a handrail and a shallower angle. Additionally, alternating tread devices have been shown by approximately 25 years of successful use and by the scientific study, "Performance, perceived safety and comfort of the alternating tread stair" to be an acceptable vertical access component and preferred over ships' ladders. Therefore, allowing alternating tread devices with vertical heights of 20 feet (the same vertical distance as ladders without cages, wells or safety devices) without requiring a landing is reasonable.

Allowed Alternating Tread Devices usage as a Means of Egress

410.5.3	<i>Gridirons of Stage Exits to scuttle in roof</i>
1009.9	<i>Mezzanines ≤ 250 ft² & ≤ 5 occupants in F,H & S occupancies</i>
1009.9	<i>I-3 guard towers observation stations or control rooms ≤ 250 ft²</i>
1009.9.11	<i>to Unoccupied roofs</i>
1015.3	<i>Secondary means of egress to Boiler, Incinerator and Furnace rooms</i>
1015.3	<i>Secondary means of egress to Refrigeration machinery rooms</i>
1015.6.1	<i>Stage galleries, gridirons and catwalks</i>
1019.1.2	<i>Second means of egress for helistops < 60 ft long or 2,000 ft² in area</i>

Bibliography:

Performance, perceived safety and comfort of the alternating tread stair by Jorna, Mohageg & Synder, Virginia Polytechnic Institute and State University, published Applied Ergonomics 1989.20.1,26-32

29CFR1910.27(d)(2) Fixed ladders – landing platforms

Cost Impact: The code change proposal could minimally reduce the cost of construction in some cases by eliminating the need for landings for alternating tread devices.

Analysis: There is a similar code change by Mr. Bagnetto to Section 505.5.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: An alternating tread device is not a stairway, so it should be allowed the same as a ladder. Since this is not a stairway, a landing is not required at any height, so the additional exception would provide that clarification.

Assembly Action:

None

Final Hearing Results

E68-07/08

AS

Code Change No: **E72-07/08**

Original Proposal

Sections: 1009.9.2 (IFC [B] 1009.9.2)**Proponent:** Robert Bagnetto, Lapeyre Stairs Inc.**Revise as follows:**

1009.9.2 (IFC [B] 1009.9.2) Treads of alternating tread devices. Alternating tread devices shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 7 inches (178 mm) and a maximum riser height of 9.5 inches (241 mm). The projected tread depth shall be measured horizontally between the vertical planes of the foremost projections of adjacent treads. The riser height shall be measured vertically between the leading edges of adjacent treads. The combination of riser height and projected tread depth provided shall result in an alternating tread device angle that complies with Section 1002. The initial tread of the device shall begin at the same elevation as the platform, landing or floor surface.

Exception: Alternating tread devices used as an element of a means of egress in buildings from a mezzanine area not more than 250 square feet (23 m²) in area which serves not more than five occupants shall have a minimum projected tread of 8.5 inches (216 mm) with a minimum tread depth of 10.5 inches (267 mm). The rise to the next alternating tread surface should not be more than 8 inches (203 mm).

Reason: The purpose of this proposed change is to clarify the code. The code is ambiguous in that it does not specify how to measure riser height and projected tread depth of alternating tread devices.

This proposal is superior to the current provisions in the code in that it rectifies shortcomings in the code by clarifying the manner in which alternating tread device projected tread depth and riser height are measured.

IBC Section 1009.3 provides details on how to measure riser height and projected tread depth of traditional stairs. However, exception 1 of this section exempts alternating tread devices from measuring riser height and projected tread depth using the same method as for traditional stairs.

IBC Section 1009.9.2 provides the values for minimum projected tread depth and maximum riser height but does not provide the details on how to measure these features.

IBC Section 1002 defines alternating tread devices as having a series of steps between 50 and 70 degrees.

By definition, the left and right treads of alternating tread devices are each about ½ the width of the device and therefore do not overlap one another. The most reasonable method of measuring projected tread depth of alternating tread devices is using treads that are directly above and below each other (not adjacent treads which are to the side of each other and do not overlap one another.), as these are the treads that the left and right feet of the user each separately use.

Also, measuring both projected tread depth and riser height from adjacent treads would give maximum angles of *43.26 degrees* for alternating tread devices accessing mezzanines and *62.24 degrees* for alternating tread devices accessing any other area. This would conflict with section 1002 as the maximum angle of *43.26 degrees* would be below the minimum *50 degree* allowed by definition in section 1002; and the maximum angle of *62.24 degrees* would be significantly more restrictive than the *70 degree* angle allowed by section 1002. Measuring projected tread depth and riser height in accordance with this proposal would result in maximum angles of *62.02 degrees* for alternating tread devices accessing mezzanines and *75.26 degrees* for alternating tread devices accessing other areas. These angles are in the range of *50 to 70 degrees* as required by the definition of alternating tread devices in section 1002 (with the exception that either the actual projected tread depth used must be larger than the minimum or the actual riser height used must be below the maximum to ensure a maximum angle of *70 degrees*).

Note: The current wording in Section 1009.9.2 is almost exactly the same as in Section 101.4.6.6 of the 1996 and 1999 editions of the BOCA National Building Code. The history behind how the wording was incorporated into BOCA could not be ascertained.

Bibliography:

Standard Building Code; Section 1007.8.4

The BOCA National Building Code/1999 Sections 1014.6.6

Cost Impact: The code change proposal will not affect the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language would provide a controlled way to measure treads and risers in alternating tread devices.

Assembly Action:

None

Final Hearing Results

E72-07/08

AS

Code Change No: E74-07/08

Original Proposal

Sections: 408.3.4 (New), 1009.10 (New), 1009.3, 1012.2, 1012.5, 1013.2, 1013.5 (IFC [B] 1009.10 (New), [B] 1009.3, [B] 1012.2, [B] 1012.5, [B] 1013.2, [B] 1013.5)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

1. Add new text as follows:

1009.10 (IFC [B] 1009.10) Ships Ladders. Ships ladders are permitted to be used as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 SF (23sq m) with not more than 3 occupants and for access to unoccupied roofs.

Ships ladders shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 15 inches (612 mm) and a maximum riser height of 9.5 inches (241 mm).

Handrails shall be provided on both sides of ships ladders.

(Renumber subsequent sections)

408.3.4 Ship ladders. Ship ladders shall be permitted for egress from control rooms or elevated facility observation rooms in accordance with Section 1009.10.

(Renumber subsequent sections)

2. Revise text as follows:

1009.3 (IFC [B] 1009.3) Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Ships ladders in accordance with Section 1009.10.
2. 3. Spiral stairways in accordance with Section 1009.8.
3. 4. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1025.11.2.

- 4- 5. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 7.75 inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
- 5- 6. See the Section 3403.4 for the replacement of existing stairways.

1012.2 (IFC [B] 1012.2) Height. Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices and ship ladders, measured above tread nosings shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

1012.5 (IFC [B] 1012.5) Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs.

Exceptions:

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.
3. Handrails for alternating tread devices and ship ladders are permitted to terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices and ship ladders are not required to be continuous between flights or to extend beyond the top or bottom risers.

1013.2 (IFC [B] 1013.2) Height. Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, adjacent walking surface or adjacent seatboard.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (1067 mm) measured vertically from the leading edge of the stair tread nosing.
2. The height in assembly seating areas shall be in accordance with section 1024.14.
3. Along alternating tread device and ship ladders, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

1013.3 (IFC [B] 1013.3) Opening limitations. Open guards shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.

Exceptions:

1. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway shall be of a maximum size such that a sphere of 6 inches (152 mm) in diameter cannot pass through the opening.
2. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening.
3. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship ladders, balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches (533 mm) to pass through any opening.
4. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.
5. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, openings for required guards on the sides of stair treads shall not allow a sphere of 4.375 inches (111 mm) to pass through.

Reason: Applicable to Use Group I-3, allows spaces that are normally occupied by a small number of staff persons to have stairways with greater riser height and narrower tread depth than the standard 7-11 riser/tread requirements. In order to provide the 360-degree visibility and maximum mobility necessary for guard observation stations, the size of the base of such elevated stations must be kept to a minimum. Security is increased without risk to either the general public or the inmates, since access to these spaces is restricted to prison staff personnel.

Ships ladders are easier and safer to maneuver than are alternating tread stairs in conditions related to I-3 functions which require carrying items necessary for occupation.

The proposals to Sections 1009.3, 1012.2, 1012.5, 1013.2 and 1013.3 are for correlation. During the 2006/07 cycle the committee approved the revisions in code changes E86, E93, E99 and E100 that added provisions for alternating tread devices to 1012.2, 1012.5, 1013.2 and 1013.3. The same exceptions for handrails and guards should apply to ship ladders.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Ships ladders are undefined terms. This could be misapplied to other locations where this type of access would not be appropriate. This should be limited to Group I-3.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

A. Brooks Ballard, Virginia Department of Corrections, requests Approval as Modified by this public comment.

Modify proposal as follows:

1009.10 (IFC [B] 1009.10) Ship Ships ladders. Ship Ships ladders are permitted to be used as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 SF (23sq m) with not more than 3 occupants and for access to unoccupied roofs in Group I-3.

Ship Ships ladders shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 15 inches (612 mm) and a maximum riser height of 9.5 inches (241 mm).

Handrails shall be provided on both sides of ship ships ladders.

(Renumber subsequent sections)

1009.3 (IFC [B] 1009.3) Stair treads and risers. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. Stair tread depths shall be 11 inches (279 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured at a right angle to the tread's leading edge at a point 12 inches (305 mm) from the side where the treads are narrower and a minimum tread depth of 10 inches (254 mm).

Exceptions:

1. Alternating tread devices in accordance with Section 1009.9.
2. Ship Ships ladders in accordance with Section 1009.10.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: These changes, in response to spring hearing comments, are to remove the inconsistency in the term ship vs ships and clarify the original intent of this being allowed for Group I-3 only. Ship ladders are defined within this change by prescriptive requirements and parameters.

Public Comment 2:

David W. Cooper, Stair Manufacturing and Design Consulting, representing Stairway Manufacturers Association, requests Approval as Modified by this public comment.

Modify proposal as follows:

1009.10 (IFC [B] 1009.10) Ships Ladders. Ships ladders are permitted to be used as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 SF (23sq m) with not more than 3 occupants and for access to unoccupied roofs. Ships ladders shall have a minimum ~~projected~~ tread depth of 5 inches (127 mm), The tread shall be projected such that the total of the

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

tread depth plus the nosing projection is no less than 8.5 inches (216 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 15 inches (612 mm) and a The maximum riser height shall be of 9.5 inches (241 mm). Handrails shall be provided on both sides of ships ladders. The minimum clear width at and below the handrails shall be 20 inches (508 mm)

(Portions of proposal not shown remain unchanged)

Commenter's Reason: This proposal unnecessarily took flawed alternating tread device language and inappropriately applied it to ships ladders. Ships ladders can be easily referenced using the terminology that is used for stairs to allow for ease of understanding by all and provide for consistent enforcement of the code. The clear width of the ladder should be identified as with stairs not the tread width.

Final Hearing Results

E74-07/08

AMPC1, 2

Code Change No: E76-07/08

Original Proposal

Sections: 1009.12 (New), 1009.12.1 (New) (IFC [B] 1009.12 (New), [B] 1009.12.1 (New))

Proponent: Ed Donoghue, Edward Donoghue Associates Inc., representing National Elevator Industry, Inc.

Add new text as follows:

1009.12 (IFC [B] 1009.12) Stairway to elevator equipment. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a stairway.

1009.12.1 (IFC [B] 1009.12.1) Penthouse or roof access. Where the stairway provides access to the penthouse or roof, access shall be provided through a penthouse complying with Section 1509.2.

Reason: The requirement for a stair to the roof for maintaining elevator equipment will correlate the IBC with ASME A17.1/CSA B44. ASME A17.1/CSA B44 has required stairs and a door to access elevator equipment since 1955. More specifically Section 2.27.3.2.1 of A17.1 states the following "a stairway with a swinging door and platform at the top level, conforming to 2.7.3.3 shall be provided from the top floor of the building to the roof level. Hatch covers as a means of access to roofs shall not be permitted." Alternating tread devices or ladders are not permitted as alternatives to the starway.

A similar code change was submitted in the last cycle (E71-06/07) to Section 1009.11, which was disapproved as it was felt that the definition of occupiable space already addressed this concern. The definition for occupiable space does not necessarily cover maintenance of elevator equipment as the intent of "engaged in labor" is talking more about the intended occupancy classification of the space such as an office space. The commentary for the definition of occupiable space states "Some spaces are neither habitable nor occupiable, such as closets, toilet rooms and mechanical equipment rooms." Without clarification this section conflicts with the elevator code.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1009.12 (IFC [B] 1009.12) Stairway to elevator equipment. Roofs and penthouses containing elevator equipment that must be accessed for maintenance are required to be accessed by a stairway.

~~1009.12.1 (IFC [B] 1009.12.1) Penthouse or roof access.~~ Where the stairway provides access to the penthouse or roof, access shall be provided through a penthouse complying with Section 1509.2.

Committee Reason: The proposed Section 1009.12.1 was deleted because it was unclear if the stairway access to the roof was required to be through a separate roof structure or through the elevator penthouse. In addition, there are hatches that provide safe roof access; therefore a stair penthouse is not needed.

Section 1009.12 was approved to provide coordination with the elevator standard, ASME A17.1.

Assembly Action:

None

Final Hearing Results

E76-07/08

AM

Code Change No: **E78-07/08**

Original Proposal

Sections: 1011.1 (IFC [B] 1011.1)

Proponent: Keith Wen, RA, New York City Department of Buildings, representing New York City

Revise as follows:

1011.1 (IFC [B] 1011.1) Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. ~~The path of egress travel~~ ~~Access~~ ~~to exits and within exits shall be~~ marked by readily visible exit signs ~~to clearly indicate the direction of egress travel~~ in cases where the exit or the path of egress travel is not immediately visible to the occupants. Intervening means of egress doors within exits shall be marked by exit signs. Exit sign placement shall be such that no point in an exit access corridor or exit passageway is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:

1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. Exit signs are not required in sleeping areas in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

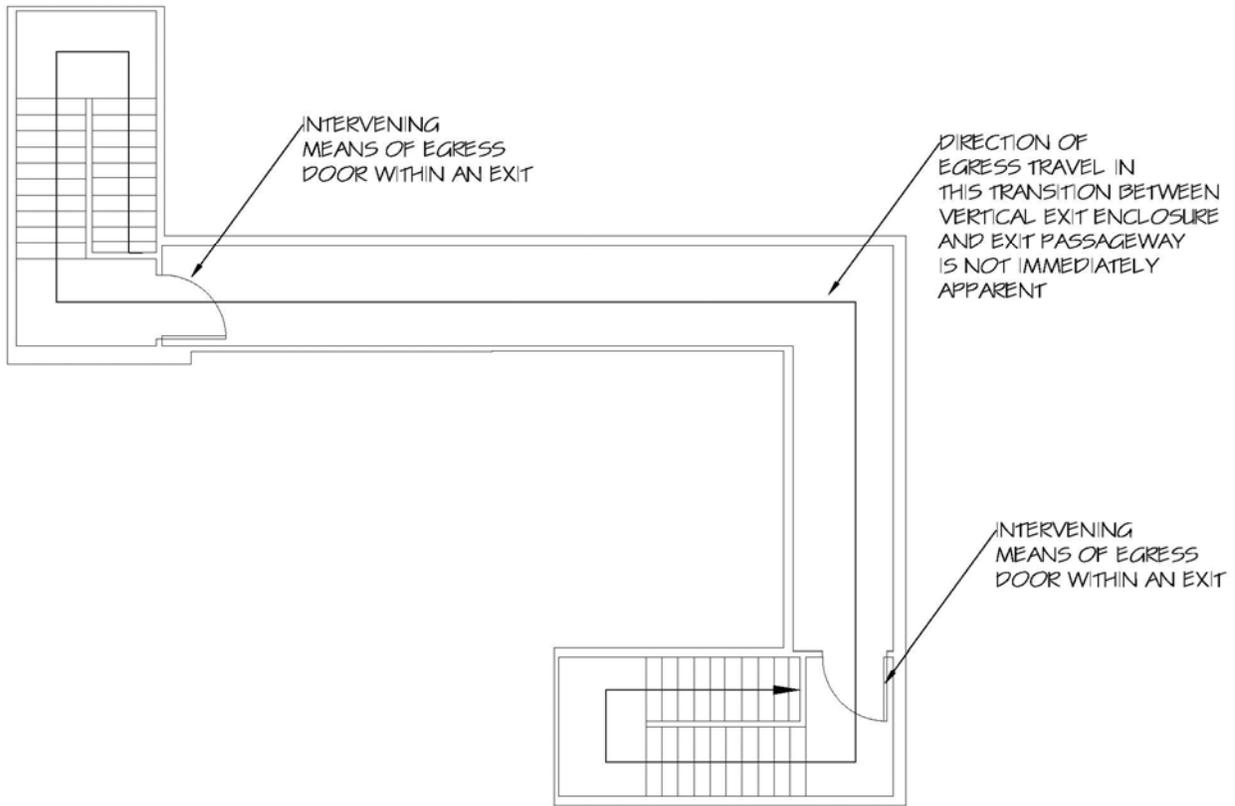
Reason: Section 1011.1 requires exit signs along the exit access to help occupants to reach the exits. Typically, once the occupants reach the exits, exit signs are not required within the exits. However, in buildings with more complicated egress layout, it is possible that the direction of egress travel within the exits may not be immediately apparent to the occupants. For example, a vertical exit enclosure on the north side of a building may transition into a horizontal extension in the form of either an extended landing/corridor or an exit passageway with intervening means of egress doors on the 15th floor before continuing down into the staircase on the south side. The path of egress might involve turns with extended distances. In such cases, it is important to provide clear egress direction for the occupants within the exits.

The report from the 2003 World Trade Center Building Code Task Force identified the problem of clarity or "readability" of travel within exit enclosures, and in response to the 1993 and 2001 World Trade Center incidents, recommended additional exit signs within the exit enclosures.

Evacuees may be hesitant or even confused when traveling within an exit that involves transition from a vertical to a horizontal direction and horizontal extension that includes turns and intervening doors within the path of egress. When travel direction is not clear within an exit, it creates uncertainty in decision making and causes delays in evacuations in threatening conditions.

The proposed changes clarify that exit signs shall be installed if the path of egress travel within an exit is not obvious to the occupants. This may already be the practice of many jurisdictions to ensure life safety of the occupants; this proposal simply codifies such practice.

Additionally, similar to the requirement for exit access corridor, exit signs in exit passageways should also be visible from within a 100 feet or the listed viewing distance for the sign, whichever is less.



EXAMPLE OF AN EXIT PASSAGEWAY THAT REQUIRES EXIT SIGNS ALONG THE EGRESS PATH AND ON THE INTERVENING EXIT DOORS

Bibliography:

City of New York, Department of Buildings. World Trade Center Building Code Task Force: Findings and Recommendations (available at <http://home2.nyc.gov/html/dob/downloads/pdf/wtcbctf.pdf>). February, 2003. LL26/2004 Section 27-383.1 (a).

Cost Impact: This proposal establishes requirements for exit signs in exits where egress direction is not immediately apparent, which may increase costs in buildings that have more complicated egress paths, but the decrease in egress and full building evacuation time outweighs the moderate cost of the exit signs.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The additional exit signage is needed for clarity for occupant egress. The proposed language would clarify if exit signs are needed within exit stairways or exit passageways.

Assembly Action:

None

Final Hearing Results

E78-07/08

AS

Code Change No: E79-07/08

Original Proposal

Sections: 1011.1 (IFC [B] 1011.1)

Proponent: A. Brooks Ballard, Virginia Department of Corrections

Revise as follows:

1011.1 (IFC [B] 1011.1) Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. Access to exits shall be marked by readily visible exit signs in cases where the exit or the path of egress travel is not immediately visible to the occupants. Exit sign placement shall be such that no point in a corridor is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:

1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. Exit signs are not required in dayrooms, sleeping areas, rooms, or dormitories in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

Reason: This change clarifies the intent of this section that exit signs are not required in cells or contiguous housing dayrooms or sleeping dormitories in Group I-3 occupancies as those areas are within the same smoke compartment and therefore fall under the Group I-3 classification. Most occupants in such buildings are long-time residents who become familiar with the locations of all exits outside their sleeping areas, whether they are marked or unmarked. In cases of emergency, occupants in Use Group I-3 are escorted by staff to the exits and to safety. The exit signs also represent potential for vandalism and use as weapons when they are accessible to the residents.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language would clarify and coordinate with the fire operation and the safety plans for Group I-3 occupancies. Signage may need to be removed in these areas for security concerns about the signs being used as potential weapons.

Assembly Action:

None

Final Hearing Results

E79-07/08

AS

Code Change No: **E82-07/08**

Original Proposal

Sections: 1012.5 (IFC [B] 1012.5)

Proponent: Philip Brazil, Reid Middleton, Inc., representing himself

Revise as follows:

1012.5 (IFC [B] 1012.5) (Supp) Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the stair flights at stairways and the ramp runs at ramps.

Exceptions:

1. Handrails within a dwelling unit or sleeping unit that is not required to be ~~accessible~~ an Accessible unit or a Type A unit, need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.
3. Handrails for alternating tread devices may terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

Reason: The question of what direction handrails should extend at the top and bottom of stair flights and ramp runs has existed for many years. I believe public safety is better served when the extensions are in the same direction as the stair flights and ramp runs they serve. The purpose for this proposal is to add language making it clear that the extensions are required to be in the same direction. It will also better align IBC Section 1012.5 with Section 505.10 of ICC A117.1-03, which requires handrails to extend beyond and in the same direction of stair flights and ramp runs.

Exception #1 is revised for consistency with the terminology in IBC Chapter 11 for dwelling units, sleeping units, Accessible units and Type A units. Note that the first two terms are defined in Section 202 and the last two terms are defined in Section 1102.1. Type B units are not also excluded from qualifying for Exception #1 because multistory dwelling units and sleeping units not provided with elevator service are not required to be Type B units. Refer to IBC Section 1107.7.2 for further information.

This proposal began as a public comment to Proposal E92-06/07-D. One of the reasons cited by the Means of Egress Committee for disapproving Proposal E92-06/07 was that there should be an exception where handrails are continuous. The proposed language in this proposal requiring handrail extensions to be in the same direction as stair flights and ramp runs, however, does not apply to continuous handrails because there is no extension at a continuous handrail, only at the ends of handrails. Refer to the 2006 Report of the Public Hearing on the 2006 ICC construction codes for further information.

A second reason cited by the Means of Egress Committee for disapproval was that there should be an exception for Group A aisle situations. Exception #2 to Section 1012.5, however, exempts aisle handrails in Group A and E occupancies in accordance with Section 1025.13. Section 1025.13 on handrails in assembly occupancies, in turn, provides exemptions for ramped aisles and aisle stairs. Handrails are not required at (1) ramped aisles with seating on both sides where the slope of the aisle is no greater than 1:8 and, (2) at the sides of ramped aisles regardless of the seating arrangement where a guard with graspability at least equivalent to that required for a handrail is provided.

A third reason cited by the Means of Egress Committee for disapproval was that the straight extension of the handrail into the landing at the top and bottom of the stairway could be an egress hazard. Section 1012.5, however, currently requires handrails to return to a wall, guard or the walking surface, except for handrails that are continuous to an adjacent stair flight or ramp run. An extension of a handrail is a portion of the handrail and is subject to this same requirement.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1012.5 (IFC [B] 1012.5) (Supp) Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrail shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the stair flights at stairways and the ramp runs at ramps.

Exceptions:

1. Handrails within a dwelling unit ~~or sleeping unit~~ that is not required to be accessible ~~an Accessible unit or a Type A unit~~, need extend only from the top riser to the bottom riser.
2. Aisle handrails in Group A and E occupancies in accordance with Section 1025.13.
3. Handrails for alternating tread devices may terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

Committee Reason: The proposal clarifies that the required handrail extension should not bend to maintain safety for persons with mobility impairments as well as the general public. This would coordinate with ICC A117.1 and the ADA/ABA Guidelines. The modification is to maintain the language in Exception 1. The term 'accessible' is broad enough that it will prohibit the exception for the handrail extension in Accessible units, Type A units and Type B units.

Assembly Action:**None**

Final Hearing Results

E82-07/08

AM

Code Change No: E85-07/08

Original Proposal

Sections: 1013.1, 1013.1.1 (New), 1013.2, 1013.3, 1013.5, 1013.6 (IFC [B] 1013.1, [B] 1013.1.1 (New), [B] 1013.2, [B] 1013.3, [B] 1013.5, [B] 1013.6); IRC R312.1, R312.2

Proponent: Paul K. Heilstedt, P.E., Chair, representing ICC Code Technology Committee (CTC)

THESE PROPOSALS ARE ON THE AGENDA OF THE IBC MEANS OF EGRESS AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEE AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC MEANS OF EGRESS**1. Revise as follows:**

**SECTION 1013.0
GUARDS**

1013.1 (IFC [B] 1013.1) (Supp) Where required. Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, stairways, stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side above the floor or grade below. Guards shall be adequate in strength and attachment in accordance with Section 1607.7. ~~Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Guards shall also be located along glazed sides of stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below where the glazing provided does not meet the strength and attachment requirements in Section 1607.7.~~

Exception: Guards are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.

5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1025.14 are permitted and provided.

2. Add new text as follows:

1013.1.1 (IFC [B] 1013.1.1) Glazing. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Where the glazing provided does not meet the strength and attachment requirements in Section 1607.7, complying guards shall also be located along glazed sides of open-sided walking surfaces.

3. Revise as follows:

1013.2 (IFC [B] 1013.2) (Supp) Height. ~~Required guards shall form a protective barrier be~~ not less than 42 inches (1067 mm) high, measured vertically above the adjacent walking surfaces, adjacent fixed seating or the line connecting the leading edge edges of the tread-treads , adjacent walking surface or adjacent seatboard.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from the leading edge of the stair tread nosing. guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
- ~~3.~~ The height in assembly seating areas shall be in accordance with Section 1024.14.
- ~~3.4.~~ Along alternating tread device, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

1013.3 (IFC [B] 1013.3) (Supp) Opening limitations. ~~Open Required guards shall have balusters or ornamental patterns such that a~~ not have openings which allow passage of a sphere 4-inch-inches (102 mm) diameter sphere in diameter from the walking surface to the required guard height cannot pass through any opening up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.

Exceptions:

1. From a height of 36 inches (914 mm) to 42 inches (1067 mm), guards shall not have openings which allow passage of a sphere 4.375 inches (111 mm) in diameter.
- ~~4.~~ 2. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail, at the open side of a stairway shall be of a maximum size such that a sphere of 6 inches (152 mm) in diameter cannot pass through the opening. not allow passage of a sphere 6 inches (152 mm) in diameter.
- 2 ~~3.~~ 3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening. not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
- ~~3.~~ ~~4.~~ 4. In areas which are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches (533 mm) to pass through any opening. guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
- ~~4.~~ ~~5.~~ 5. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall have balusters or ornamental patterns such that a not have openings which allow passage of a sphere 4 inch inches (102mm) in diameter sphere cannot pass through any opening up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches (203 mm) in diameter shall not pass.

- 5- ~~6.~~ Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, ~~openings for required guards on the sides of stair treads shall not allow a sphere of 4.375 inches (111 mm) to pass through.~~ guards on the open sides of stairs shall not have openings which allow passage of a sphere 4.375 (111 mm) inches in diameter.

1013.4. (IFC [B] 1013.4) Screen porches. (No change to current text)

1013.5 (IFC [B] 1013.5) Mechanical equipment. Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inch inches (533 mm) in diameter sphere. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliance, equipment, fan or component.

1013.6 (IFC [B] 1013.6) Roof access. Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inch inches (533 mm) in diameter sphere.

PART II – IRC BUILDING AND ENERGY

1. Revise as follows:

SECTION R312 GUARDS

R312.1 (Supp) Where Guards required. ~~Guards shall be provided on all decks, landings, porches, balconies, ramps or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below. Required guards shall not be less than 36 inches in height. Open sides of stairs with a total rise of more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 34 inches (864 mm) in height measured vertically from the nosing of the treads.~~ Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.

~~Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.~~

2. Add new text as follows:

R312.2 Height. Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads.

Exceptions:

- Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
- Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

3. Revise as follows:

R312.2 R312.3 Guard Opening limitations. ~~Required guards on open sides of stairways, raised floor areas, balconies and porches shall not have openings intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches (102 mm) or more in diameter from the walking surface to the required guard height.~~

Exceptions:

- The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a guard, at the open side of a stairway shall be permitted to be of such a size that a sphere 6 inches cannot pass through. ~~not allow passage of a sphere 6 inches (153 mm) in diameter.~~

2. ~~Openings for required guards on the open sides of stair treads stairs shall not allow passage of a sphere 43/8 inches or more in diameter to pass through~~ Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4.375 inches (111 mm) in diameter

Reason: The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as “areas of study”. Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April/2005, the CTC has held twelve meetings - all open to the public.

This proposed change is a result of the CTC’s investigation of the area of study entitled “Climbable Guards”. The scope of the activity is noted as:

The study of climbable guards will focus on determining the need for appropriate measures to prevent or inhibit an individual from utilizing the elements of a guard system, including rails, balusters and ornamental patterns, to climb the guard, thereby subjecting that person to the falling hazard which the guard system is intended to prevent.

This proposal is a follow-up to E96 – 06/07. As of this writing this area of study has been completed by the CTC relative to these proposals. The general focus of these two proposals, one to the IBC and one to the IRC, is to create consistency in language regulating guards in the two codes.

Part I – IBC

IBC 1013.1. Laundry lists of items in the code are typically not all-inclusive. The word “including” provides this clarification in the following sections as well. This section is divided into two paragraphs with the second paragraph dealing with glass and glazing without a change in intent.

The key part of this change to IBC 1013.1 is submitted in order to clarify how the height measurement which triggers the guard requirement is made relative to proximity to the adjacent fall-off. This is illustrated in the following figure:



The view is taken from the landing of a 3 riser stair, looking towards the face of the risers.



IBC 1013.2: The technical portions of this change are the changes that stipulates that the provisions are applicable to only required guards and that a fixed seat becomes a potential walking surface to a child and thus warrants the guard height to be measured from that point. The remainder does not change the intent but rather provides standardized text dealing with stair treads and the determination of how to measure guard height. This public comment revises the term to “fixed seating” so as to clarify the measurement, using common terminology. Fixed seating represents a walking surface that is sure to be utilized by children. As such, the measurement of the guard must be taken from this location to address the hazard of a child falling over the guard. It is impossible for the code to regulate ornamentals such as planters, furniture and the like and this proposal does not intend to regulate them.

IBC 1013.3: This section is also clarified to apply to only required guards. In the disapproval of E96-06/07, committee notes that they feel that exceptions 1 and 2 are redundant. A careful reading of the text revisions reveals a subtle difference. Exception 1 is a general exception for guard height along stairs. Exception 2 addresses the guard height where the top of the guard serves as a handrail. This distinction is intended to provide clarification in the code for the two possible scenarios.

The majority of the revision in this section and exception involve editorial rewording of the sentences for clarity and consistency. The technical change is to exception 1 to reduce the maximum opening (8" to 4-3/8" inches) for this upper portion of the guard above 36 inches.

The 8 inch limitation on openings at the upper section of the guard was based on the difference between the 34 inch height being the part of the guard that protects small children and the 42 inch height for the rest of the population. However this does not take into account that residential R-3 use groups require a minimum guard height of 36 inches. Proposed exception 1 raises the height for which the 4 inch opening requirement is applicable - to coincide with the minimum guard height of 36 inches in residential occupancies.

The change in maximum opening size at the upper portion of the guard, from the current 8 inch sphere criteria to a 4-3/8 inch sphere, is based on providing an equivalent level of protection as that provided by the current 4 inch opening on the lower portion of the guard. As a point of reference, the following measurements of head sizes of infants are excerpted from Drawing #2 Measurement of Infants from a book entitled "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley, first published by Whitney Library of Design in 1993, republished and copyrighted by John Wiley & Sons, New York (ISBN 0-471-09955-4) in 2002.

The publication states "We have chosen to accommodate 98% of the U.S. population, which lies between the 99 percentile and the 1 percentile, for product designs for civilians" page 10-11 headlined percentiles.

Age	Side-to-side measurement	Back-to-front measurement
12-15 months:	5"	6.5"
16-19 months:	5"	6.5"
20-23 months:	5.1"	6.8"

Additional point of reference, from the same book entitled "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley, figure number 8, page 14, showing child age 2.5 – 3 years. The chest dimension when scaled (1" = 12") shows a 4-3/4" dimension from the back to the front.

The following information from various resources has been compiled to illustrate how countries outside of the US are regulating the openings in guards:

Country of Origin	Sphere Rule Metric	Sphere Rule Inches
Canada	100mm	3.94"
United Kingdom	100mm	3.94"
United States	102mm	4"
Australia	125mm	4.92"
Germany	120mm	4.72"
France	110mm	4.33"
Mexico (no code – standard followed)	102mm – 152mm	4" – 6"
Russia	100mm	3.94"
Romania	100mm	3.94"
Trinidad & Tobago	102mm	4"
Japan (Confirmation Pending)	125mm	4.92"
Spain (Confirmation Pending)	(120mm) (125mm)	(4.72") (4.92")
Switzerland	120mm	4.72"
Sweden	100mm	3.94"
Taiwan (Confirmation Pending)	125mm	4.92"
Singapore (Confirmation Pending)	125mm	4.92"
Poland (Confirmation Pending)	100mm	3.94"
Turkey	100 mm	3.94"
Netherlands (Confirmation Pending)	100mm	3.94"

Part II – IRC

IRC R312.1: This section is being divided into two sections, similar to the IBC. The first section includes the general guard requirement, and the new section (R312.2) includes the height requirements. See reason for IBC Section 1013.1.

IRC R312.2: This new section includes the guard height requirements. It is reformatted to place emphasis on the 36" high guard required at level surfaces. There are not technical changes to the minimum height. As noted in the current text to IRC Section R312.2, the IRC applies to required guards. The term "required" is proposed here as well. This section uses the term "adjacent fixed seating" – intended to clarify that where there is built-in seating, the guard height is to be measured from the seat itself to provide for the minimum required height where it is assumed that children may be standing. See reason for IBC Section 1013.2.

IRC R312.3: The majority of the revision in this section and exception involve editorial rewording of the sentences for clarity and consistency.

Bibliography:

Interim Report No. 1 of the CTC, Area of Study – Climbable Guards, March 9, 2006.
 "The Measure of Man and Woman: Human Factors" by Alvin R. Tilley

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IBC MEANS OF EGRESS

Committee Action:

Approved as Submitted

Committee Reason: The proposal comprehensively revises guard requirements and clarifies where they are required. It also directs users to the appropriate structural provisions.

Assembly Action:

None

PART II – IRC B/E
Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the rewording of this section which includes fixed seating as a measuring point for guard rails and new language on how to measure open sided walking surfaces at any point within 36 inches horizontally to the edge of the open side significantly improves the existing code language. The committee felt this new language helps to address a significant amount of issues with where guards are to be located and how they are to be measured while bringing the *International Residential Code* closer to the current language in the *International Building Code*.

Assembly Action:

None

Final Hearing Results

E85-07/08, Part I	AS
E85-07/08, Part II	AS

Code Change No: E91-07/08

Original Proposal

Sections: 1014.1 (IFC [B] 1014.1)

Proponent: Anne R. vonWeller, Murray City, UT, representing Utah Chapter of ICC

Revise as follows:

1014.1 (IFC [B] 1014.1) General. The exit access arrangement shall comply with Sections 1014 through 1017 and the applicable provisions of Sections 1003 through 1013. Exit access arrangement shall comply with Sections 1014 through 1017.

Reason: The change is editorial and made to clarify all of the applicable requirements of 1003 through 1013 apply to the exit access, not just the provisions related to exit access arrangement.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The additional language clarifies the intent of the organization of Chapter 10 exit access requirements.

Assembly Action:

None

Final Hearing Results

E91-07/08	AS
-----------	----

Code Change No: **E92-07/08**

Original Proposal

Sections: 1014.2 (IFC [B] 1014.2)

Proponent: Gary Lampella, City of Redmond, OR, representing Oregon Officials Association

Revise as follows:

1014.2 (IFC [B] 1014.2) (Supp) Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to ~~the area served~~ one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.

Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

2. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

Exceptions:

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
 - 2.1. The stock is of the same hazard classification as that found in the main retail area;
 - 2.2. Not more than 50 percent of the exit access is through the stockroom;
 - 2.3. The stockroom is not subject to locking from the egress side; and
 - 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full or partial height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.
3. An exit access shall not pass through a room that can be locked to prevent egress.
4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

Reason: The code as currently written does not allow a small accessory use to egress through a larger space. Since the term "except where such adjoining rooms or areas are accessory to the area served" indicates that a larger space exiting through a smaller space is the only egress configuration that is allowed. An example would be a large retail store where there was a manager's office that was accessory to the M occupancy. The office being an accessory use could have the occupants from the M egress through it, but you would not be permitted to egress from the office into the M occupancy because the M is not accessory to the office.

The definition for "accessory" can be found in Section 508.3.1 which limits them to being subsidiary to the main occupancy of the building, and not occupying more than 10 percent of area of the story in which they are located. . In essence the code prohibits an accessory use, such as described above, from exiting into the main occupancy of the building but allows the main occupancy, which could be considerably larger, to exit through the accessory use.

Section 1014.2.1 was revised in Detroit via a public comment to recognize that some smaller separate tenants could have a means of egress through a larger separate tenant. This code change would simply allow one tenant space to have a means of egress that separate tenants are currently permitted to have.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Committee Reason: The proposed language assists in understanding the intent for egress through other spaces. Egress should be permitted when the areas are related to each other and basically the same space. The phrase “to the area served” has been misinterpreted to prohibit an office area from exiting through a warehouse.

Assembly Action:

None

Final Hearing Results

E92-07/08

AS

Code Change No: E93-07/08

Original Proposal

Sections: 1014.2.1 (IFC [B] 1014.2.1)

Proponent: John Berry, Cole + Russell Architects, Inc

Revise as follows:

1014.2.1 (IFC [B] 1014.2.1) Multiple tenants. Where more than one tenant occupies any one floor of a building or structure, each tenant space, dwelling unit and sleeping unit shall be provided with access to the required exits without passing through adjacent tenant spaces, dwelling units and sleeping units.

Exception: ~~The Means~~ means of egress from a smaller tenant space shall not be prohibited from passing through a larger adjoining tenant space where such rooms or spaces of the smaller tenant occupy less than 10 percent of the area of the larger tenant space through which they pass; are the same or similar occupancy group; a discernable path of egress travel to an exit is provided; and the means of egress into the adjoining space is not subject to locking from the egress side. A required means of egress serving the larger tenant space shall not pass through the smaller tenant space or spaces.

Reason: The intent of this code change is simply to add clarifying language as to which tenant space is egressing through the other. I have had several people ask for clarification on how this section was to be applied. I believe the original change was needed and appropriate, but it just needs a little more clarification.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal clarifies the intent of the exception for small tenant spaces within a larger mercantile space.

Assembly Action:

None

Final Hearing Results

E93-07/08

AS

Code Change No: **E95-07/08**

Original Proposal

Sections: 1002.1, 1014.2.3 (IFC [B] 1002.1, [B] 1014.2.3)

Proponent: Roger Severson, RSA Consulting, representing Oregon Department of Health Services

1. Add new definition as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

SUITE. A group of patient treatment rooms or patient sleeping rooms within Group I-2 occupancies where there is direct and constant visual supervision of all patients within the suite, and the suite is in conformance with the requirements of Section 1014.2.2 through 1014.2.6.

2. Revise as follows:

1014.2.3 (IFC [B] 1014.2.3) (Supp) Suites in patient sleeping areas. Patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites with one intervening room where ~~if one~~ of the following conditions is ~~are~~ met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

Reason: Suite definition - The IBC currently contains some requirements for suites but there is not an explanation or definition to inform the reader as to the intent of the suite. The concept for suites to function within the code without corridor width or rating requirements were accepted to allow staff to have clear and unobstructed supervision of patients in specific treatment and sleeping rooms. It was not, and is not intended for day rooms or business sections of the hospital. Without a definition this concept is vague, leaving doubt and confusion for all who are responsible for the construction of suites within Health Care Facilities.

Section 1014.2.3 - In order to avoid a conflict, a revision to Section 1014.2.3 of the 2007 supplement is needed that would require both items, rather than having a choice as proposed. Regardless of the concern for conflict, the existing code does not state that only one of the exceptions is permitted. The Oregon Health Care Facilities Committee is not sure why the original proposal allowed the choice? With this revision, Oregon is in support of the supplemental language and the proposals by Washington submitted for this cycle. The original proponent of this section, John Williams of the Construction Review Section of Washington's DOH is in support of this revision.

Cost Impact: Depending on previous codes used and/or other applicable codes today, this code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

SUITE. A group of patient treatment rooms or patient sleeping rooms within Group I-2 occupancies where staff are in attendance within the suite. ~~for there is direct and constant visual supervision of all patients within the suite, and the suite is in conformance with the requirements of Section 1014.2.2 through 1014.2.6.~~

1014.2.3 (IFC [B] 1014.2.3) (Supp) Suites in patient sleeping areas. Patient sleeping areas in Group I-2 Occupancies shall be permitted to be divided into suites with one intervening room where ~~if one of~~ the following conditions is ~~are~~ met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

Committee Reason: The revisions to Section 1014.2.3 were disapproved for coordination with the modification to the definition. This new definition, with the modification, clarifies the definition for “suite” by defining the supervision and arrangement of the rooms within a suite. This coordinates with the 2007 Supplement, Sections 1014.2.2 through 1014.2.6

Assembly Action:

None

Final Hearing Results

E95-07/08

AM

Code Change No: **E96-07/08**

Original Proposal

Sections: 1014.2.2.5 (New) [IFC [B] 1014.2.2.5 (New)]

Proponent: Roger Severson, RSA Consulting, representing Oregon Department of Health Services

Add new text as follows:

1014.2.2.5 (IFC [B] 1014.2.2.5) Exit access through suites. Exit access from all other portions of a building in a Group I-2 occupancy, including exit access from other suites, shall not pass through a suite.

Reason: Exit access not to pass through suites- This new section is an important concept which is implied but silent regarding the use of suites. Unlike the use of room to room, or intervening room exit access, suites have a very specific function for medical and health practices and should not be used as an exit access from other portions of the facility. Also, because suites are not required to have minimum access width or ratings within the suite for the benefit of operations and supervision, exit access from other portions of a facility should not be designed through this space.

Cost Impact: Where there are areas that never had requirements in a previous code prior to the IBC, the code change proposal could cause an increase to the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1014.2.2.5 (IFC [B] 1014.2.2.5) Exit access through suites. Exit access from all other portions of a building not classifies as a suite in a Group I-2 occupancy, ~~including exit access from other suites,~~ shall not pass through a suite.

Committee Reason: The modification clarifies that it is acceptable to egress through a suite when coming from another suite. This is important for a defend-in-place scenario to allow for lift support facilities to be available in both locations – which is not an option in a corridor. This proposal, as modified, clarifies exiting from a suite. The definition for suite would include associated storage rooms and bathrooms, therefore, these spaces could also egress through the suite to a corridor or another suite.

Assembly Action:

None

Final Hearing Results

E96-07/08

AM

Code Change No: E101-07/08

Original Proposal

Sections: 1015.5 (IFC [B] 1015.5)

Proponent: James C. Gerren, Clark County Department of Development Services

Revise as follows:

1015.5 (IFC [B] 1015.5) Refrigerated rooms or spaces. Rooms or spaces having a floor area of larger than 1,000 square feet (93m²) ~~or more~~, containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doors.

Travel distance shall be determined as specified in Section 1016.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access door where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated rooms or spaces.

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *International Mechanical Code*.

Reason: The purpose of the proposed change is to make the syntax of IBC Section 1015.5 consistent with the rest of the code. In all other sections that reference criteria based on floor area, the language used consistently indicates that the requirement applies when a floor area is exceeded. For example, Section 1015.3 applies “where the area is over 500 square feet” while Section 1015.4 applies to “rooms larger than 1,000 square feet”. However, Section 1015.5 currently applies to “a floor area of 1,000 square feet or more”. The proposed change would make the language of Section 1015.5 more consistent with the terminology used throughout the rest of the IBC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This proposal clarifies the intent and brings consistency to the code.

Assembly Action:

None

Final Hearing Results

E101-07/08

AS

Code Change No: E105-07/08

Original Proposal

Sections: 1002.1, 1007.3 (IFC [B] 1002.1, [B] 1007.3)

Proponent: Sarah A Rice, CBO, Schirmer Engineering Corporation

Revise as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ACCESSIBLE MEANS OF EGRESS. A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a place designated for assisted rescue or a public way.

1007.3 (IFC [B] 1007.3) (Supp) Exit Stairways. In order to be considered part of an accessible means of egress, an exit or exit access stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit

Exceptions:

1. The area of refuge is not required at ~~unenclosed interior~~ open exit access or exit stairways a permitted by ~~Section~~ Sections 1016.1 and 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The clear width of 48 inches (1219 mm) between handrails is not required at exit access or exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at exit stairways in buildings or facilities equipped throughout by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge are not required for smoke protected seating areas complying with Section 1025.6.2.
7. The areas of refuge are not required in Group R-2 occupancies.

Reason: The proposed language is part of a package of code changes that is intended to clarify how an unenclosed stairway can be used as part of the required means of egress system for a building. The package was developed by a group of stakeholders representing code officials, designers and code users who have been working together for the past 6 years to make the provisions for unenclosed vertical egress elements work within the terms and concepts found in the IBC.

The package does the following:

- Officially introduces 3 new terms for elements within the required means of egress; unenclosed vertical exit access, exit access stair and exit access ramp;
- Allows, through the use of an exception in 1019.1, an unenclosed vertical exit access element (i.e., “exit access stair” or “exit access ramp”) to be used in lieu of an enclosed vertical exit (i.e., “exit stair” or “exit ramp”);
- Clarifies that a maximum of 50% of the enclosed vertical exits can be replaced by an unenclosed exit access (1019.1); and
- Clarifies that when an unenclosed vertical exit access is part of the required means of egress system the exit access travel limits in Section 1016.1 are to be measured down the unenclosed vertical exit access to an exit or exit discharge.
- Eliminates the option for 100% of the required exits to be replaced with unenclosed exit access elements as this would create a hardship for small buildings (those that are less than 4 stories above or below the level of exit discharge) where 2 accessible means of egress must be provided on all stories. Without at least one enclosed vertical exit, the elevator which would most like have been installed only to provide an accessible route, would now need to be equipped with standby power in accordance with the provisions of 1007.4 (which could add a considerable amount to the overall cost of the project).
- Clarifies what happens when a corridor that is required to be fire rated terminates at a unenclosed exit access (Section 1017.5)
Together this package is considered to resolve many of the design quandaries that have been encountered by small buildings (typically 2 stories) wishing to have “openness.”

The revision to the definition is to clarify that the stairway or elevator portion of the accessible means of egress may be through assistance by emergency responders. Stairways, while they may include provisions for persons with mobility impairments, are not part of an accessible route. In order to avoid possible entrapment, during emergencies, control and evacuation using the elevators must be by the fire department. The current definition could be interpreted to mean that the entire route must be accessible and unassisted. This leads to confusion between the exiting and entrance requirement.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ACCESSIBLE MEANS OF EGRESS. A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a ~~place designated for assisted rescue or a public way.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The modification to remove consideration of the change to the definition of accessible means of egress was done based on the proponent's request. Revisions to Section 1007.3 were approved for coordination with the 2007 Supplement where some open stairways provisions were relocated to Section 1016.1.

Assembly Action:

None

Final Hearing Results

E105-07/08

AM

Code Change No: **E110-07/08**

Original Proposal

Sections: 1002.1, 1016.1, 1019.1 (IFC [B] 1002.1, [B] 1016.1, [B] 1019.1)

Proponent: Anne R. vonWeller, Murrury City UT, representing Utah Chapter ICC

Revise as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

EXIT. That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ~~ground the level of~~ exit discharge, vertical exit enclosures, exit passageways, exterior exit stairs stairway, exterior exit ramps and horizontal exits.

EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, corridor, unenclosed exit access stair or unenclosed exit access ramp.

1016.1 (IFC [B] 1016.1) (Supp) Travel distance limitations. Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story ~~to the entrance to an exit~~ along the natural and unobstructed path of egress travel to an exterior exit door at the level of exit discharge, an entrance to a vertical exit enclosure, an exit passageway, a horizontal exit, an exterior exit stairway or an exterior exit ramp shall not exceed the distances given in Table 1016.1.

~~Where the path of exit access includes unenclosed stairways or ramps within the exit access, the distance of travel on such means of egress components shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.~~

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open ~~stairs~~ exit stairways.
2. In outdoor facilities with open exit access components and open exterior ~~stairs~~ exit stairways or exit ramps, travel distance is permitted to be measured to the closest riser of ~~a stair~~ an exit stairway or the closest slope of the exit ramp.
3. In other than occupancy Groups H and I, the exit access travel distance to a maximum of 50 percent of the exits is permitted to be measured from the most remote point within a building to an exit using unenclosed exit access stairways or ramps when connecting a maximum of two stories. The two connected stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. ~~The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.~~

4. In other than occupancy Groups H and I, exit access travel distance is permitted to be measured from the most remote point within a building to an exit using unenclosed exit access stairways or ramps in the first and second stories above grade plane in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories above grade plane shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories. ~~The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.~~

Where applicable, travel distance on unenclosed exit access stairways or ramps and on connecting stories shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

1019.1 (IFC [B] 1019.1) Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1019.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. ~~The required number of exits from any story shall be maintained until arrival at grade or the public way.~~

Exceptions:

1. As modified by Section 403.15 (*Additional exit stairway*).
2. As modified by Section 1019.2.
3. ~~Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be~~ Exit access stairways and ramps that comply with Exception 3 or 4 of Section 1016.1 shall be permitted to provide the minimum number of approved independent exits required by Table 1019 on each story.
4. In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.

The required number of exits from any story shall be maintained until arrival at grade or the public way.

Reason: This change is offered to make terms consistent in Chapter 10 and help clarify the understanding of how certain unenclosed stairways should appropriately be considered 'exit access stairways' without changing the current intent of the code.

There remains a good deal of confusion about the appropriate application of unenclosed stairways and ramps under the IBC. During the last cycle, the final action moved two exceptions to 1020.1 from the exit enclosure provisions to exceptions for travel distance. Admittedly, travel distance is a very important issue related to unenclosed stairways, but by removing the provisions from those for interior exit stairways and making them exceptions to travel distance will result in further confusion unless additional changes are made to clearly identify these stairways as exit access. Also, parts of the base provisions for 1016.1 and 1091.1 should be moved after the exceptions so they apply correctly to important issues such as measurement of travel distance on unenclosed stairways and maintenance of number of required exits.

The term 'exit access doorway' is used in 13 sections in the IBC (405.8.1, 411.7, 414.7.2, 715.4.3, 1004.3, 1008.1.3.5, 1015.1, 1015.2, 1015.4, 1015.4, 1017.3 and 1025.9). Exit access doorways are used to design many critical aspects of the means of egress including arrangement, number, separation, opening protection and exit sign placement. It is important to include a definition of 'exit access doorway' with this change because as we clarify that the stairways described in 1016.1 exceptions 4 and 5 are exit access stairways, we need to ensure the term exit access doorway is inclusive of specific points in the means of egress which may not include a 'doorway' such as when an unenclosed exit access stairway is used in the egress path.

Exception 3 to 1019.1 is confusing and seems to say one doesn't have to provide required exits as long as exceptions 3 and 4 to Section 1016.1 are met. Each of those exceptions only requires two means of egress. This change makes it clear all the required exits are to be provided and compliant exit access stairways are permitted to be used to help provide them.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal would coordinate with the open exit and exit access stairways as provided for in the 2007 Supplement. This clarifies this issues and how to use these elements. A definition for vertical exit enclosure may also be helpful. This should be referred to the Code Technologies Committee. See the committee action on E103-07/08.

Assembly Action:

None

Final Hearing Results

E110-07/08

AS

Code Change No: E111-07/08

Original Proposal

Table 1016.1 (IFC [B] Table 1016.1)

Proponent: Sarah A. Rice, Schirmer Engineering Corporation

Revise table as follows:

**TABLE 1016.1 (IFC [B] TABLE 1016.1)
EXIT ACCESS TRAVEL DISTANCE^a**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E,F-1, I-1, M, R, S1	200	250 ^b
I-1, R	<u>Not Permitted</u>	250 ^b
B	200	300 ^b
F-2, S2, U	300	400 ^b
H-1	Not Permitted	75 ^b
H-2	Not Permitted	100 ^b
H-3	Not Permitted	150 ^b
H-4	Not Permitted	175 ^b
H-5	Not Permitted	200 ^b
I-2, I-3, I-4	450 <u>Not Permitted</u>	200 ^b

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

Section 402.4: For the distance limitation in malls.

Section 404.8: For the distance limitation through an atrium space.

Section 407.4: For the distance limitation in Group I-2.

Section 408.6.1 and 408.7.1: For the distance limitations in Group I-3.

Sections 411.4: For the distance limitation in Special Amusement Buildings.

Section 1014.2.2: For the distance limitation in Group I-2 Hospital Suites.

Section 1015.4: For the distance limitation in refrigeration machinery rooms.

Section 1015.5: For the distance limitation in refrigerated rooms and spaces

Section 1016.2 For increased limitations in Groups F-1 and S-1.

Section 1025.7: For increased limitation in assembly seating.

Section 1025.7: For increased limitation for assembly open-air seating.

Section 1019.2: For buildings with one exit.

Section 3103.4: For temporary structures

Section 3104.9: For pedestrian walkways

~~Chapter 31: For the limitation in temporary structures.~~

b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems in accordance with Section 903.3.1.2 are permitted.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

Reason: The proposal has two purposes. First to correct the table as it addresses Group I and R occupancies. Per section 903.2 these occupancies have to be protected by an automatic sprinkler system. Therefore there is no need to list a travel distance for an unsprinklered situation. These are the changes within the table itself. With respect to the revision to footnote a, the existing footnote lists 7 code sections where travel distance is modified. The list is incomplete, there are at least 14 locations where travel distance is modified. The proposal adds the other 7 locations. This unfortunately results in a fairly long laundry list in a footnote. Since the code sections referenced are fairly specific to section perhaps the topic addressed by the section is extra information. The extra information does prevent unnecessary searching of other sections. An argument can be made that if one is considering a covered mall building, one is already looking at Section 402 and shouldn't need a reminder in Chapter 10 that there is something else to look for. An alternative to a long laundry list in footnote a would be to revise it as follows: "a. See the following sections for modifications to exit access travel distance for specific occupancies and spaces: 402.4, 404.8, 407.4, 408.6.1, 408.7.1, 411.4, 1014.2.2, 1015.4, 1015.5, 1016.2, 1019.2, 1025.7, 3103.3, 3104.9."

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The additional language provides a good cross reference and clarification for Table 1016.1.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Carroll Lee Pruitt, FAIA, Pruitt Consulting, representing North Texas Chapter of ICC, requests Approval as Modified by this public comment.

Modify table as follows:

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S1	200	250 ^a
I-1, R	Not Permitted	250 ^a

(Portions of table and footnotes not shown remain unchanged)

Commenter's Reason: The code change as approved eliminates the use of NFPA13D fire sprinkler systems permitted by Section 903.3.13 for one- and two- family dwellings as these facilities are not considered sprinklered for code permitted trade offs or reductions. Unless these types of structures were protected with a NFPA 13 or 13R system under the original submittal, there would be no allowed travel distance in these types of buildings. This would be better handled by an appropriate footnote, however, that was not a part of this code change. If this challenge is approved, we will bring back the appropriate code change in the next cycle.

Final Hearing Results

E111-07/08

AMPC

Code Change No: E112-07/08

Original Proposal

Sections: 1016.2 [IFC [B] 1016.2)

Proponent: Rick Thornberry, PE, The Code Consortium, Inc., representing AAMA Smoke Vent Task Group

Revise as follows:

1016.2 (IFC [B] 1016.2) Roof Smoke and heat vent increase. In buildings that are one story in height, equipped with automatic heat and smoke and heat roof vents complying with Section 910 and equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the maximum exit access travel distance shall be 400 feet (122 m) for occupancies in Group F-1 or S-1.

Reason: Editorial.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The revision to the definition would use correct language for smoke and heat vents.

Assembly Action:

None

Final Hearing Results

E112-07/08

AS

Code Change No: E114-07/08

Original Proposal

Table 1016.1, 1016.2 (IFC [B] Table 1016.1, [B] 1016.2); IFC 910.2.3 (IBC [F] 910.2.3)

Proponent: Richard Schulte, Schulte & Associates

1. Revise IBC as follows:

**TABLE 1016.1 (IFC [B] TABLE 1016.1)
EXIT ACCESS TRAVEL DISTANCE**

(No change to table entries)

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

Section 402: For the distance limitation in malls.

Section 404: For the distance limitation through an atrium space.

~~Section 1016.2 For increased limitations in Groups F-1 and S-1.~~

Section 1025.7: For increased limitation in assembly seating.

Section 1025.7: For increased limitation for assembly open-air seating.

Section 1019.2: For buildings with one exit.

Chapter 31: For the limitation in temporary structures.

b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems in accordance with Section 903.3.1.2 are permitted.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

~~**1016.2 (IFC [B] 1016.2) Roof vent increase.** In buildings that are one story in height, equipped with automatic heat and smoke roof vents complying with Section 910 and equipped throughout with an automatic sprinkler system in accordance with Section 903.1.1, the maximum exit access travel distance shall be 400 feet (122 m) for occupancies in Group F-1 or S-1.~~

2. Revise IFC as follows:

~~**IFC 910.2.3 (IBC [F] 910.2.3 Exit access travel distance increase.** Buildings and portions thereof used as a Group F-1 or S-1 occupancy where the maximum exit access travel distance is increased in accordance with Section 1016.2.~~

Reason: The purpose of this code change proposal is to delete the provision which allows an increase in travel distance to 400 feet in one story Group F-1 and S-1 occupancies protected by a sprinkler system and provided with smoke and heat (roof) vents.

At present, the IBC permits travel distance to be increased from 200 feet to 250 feet in Group F-1 and S-1 occupancies when sprinkler protection is provided. Section 1016.2 allows an additional 150 feet of travel distance in Group F-1 and S-1 occupancies above and beyond that permitted when sprinkler protection is provided when smoke and heat (roof) vents are also provided.

While smoke and heat (roof) vents by themselves will automatically vent smoke and heat generated by a fire in an unsprinklered one story building, there is serious doubt whether or not smoke and heat (roof) vents actually perform their intended function in buildings protected throughout by a sprinkler system.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Fire tests utilizing a combination of standard spray sprinklers and fusible link-activated smoke and heat (roof) vents conducted at Underwriters Laboratories (UL) in 1997 and 1998 clearly demonstrated that operating sprinklers interfere with the opening of roof vents. The following are quotes from the report of the tests at UL, "Sprinkler, Smoke & Heat Vent, Draft Curtain Interaction -- Large Scale Experiments and Model Development", dated September 1998. (The report is referred to as NISTIR 6196-1.)

"It had become clear by this time in the project that the vents were unlikely to open when the fire was ignited more than about 4.6 m (15 ft) away." (Page 54, NISTIR 6196-1)

". . . it appears from the data below that the sprinkler spray influenced the thermal response characteristics of this particular vent, and it is believed that sprinklers could have a similar influence on similar vent designs." (Page 64, NISTIR 6196-1)

"Six other tests were performed with the fire at this distance from the vent when the vent was equipped with a fusible link, and in none of these tests did the vent open. . . Examination of the near-ceiling temperatures from all the tests indicates that sprinklers of this type [standard spray sprinklers] have a significant cooling effect, and this will certainly have an effect on thermally-responsive, independently-controlled vents." (Page 64, NISTIR 6196-1)

"In Plastic Test P-2, the fire was ignited directly under a vent. In the experiment, flames reached the top of the central array at about 65 s and the vent cavity at about 70 s. The first sprinkler activated at 100 s. The vent did not open at any time during the 30 min test even though another vent 6 m (20 ft) to the west of the unopened vent opened at 6:04." Page 64, NISTIR 6196-1)

"This data, along with the plunge tunnel measurements reported in Section 3.1.4, suggests that the fusible link reached its activation temperature before or at about the same time as the first sprinkler activated, but the link did not fuse. It is not clear whether the link did not fuse because it was cooled directly by water drawn upwards into the vent cavity, or whether the sprinkler spray simply cooled the rising smoke plume enough to prevent the link from fusing. In any event, this phenomenon deserves further study." (Page 64, NISTIR 6196-1)

"The mass flow rates [through the vents] for Test I-10 and P-5 are relatively low compared with the theoretical maximum because the near-ceiling gas temperatures are greatly reduced by the sprinklers." (Page 100, NISTIR 6196-1)

"The significant cooling effect of sprinkler sprays on the near-ceiling gas flow often prevented the automatic operation of vents. This conclusion is based on thermocouple measurements within the vent cavity, the presence of drips of solder on the fusible links recovered from unopened vents, and several tests where vents remote from the fire and the sprinkler spray activated. In one cartoned plastic commodity experiment, a vent did not open when the fire was ignited directly beneath it." (Page 101, NISTIR 6196-1)

NFPA 204 also clearly indicates that operating sprinklers will reduce the venting rate through any vents which do open due to the reduction of temperature in the vicinity of the vent caused by operating sprinklers. The following is an excerpt from the 2002 edition of NFPA 204:

"A.4.4.3 Mass flow through a vent is governed mainly by the vent area and the depth of the smoke layer and its temperature. Venting becomes more effective with smoke temperature differentials between ambient temperature and an upper layer of approximately 110°C [198°F] or higher. Where temperature differences of less than 110°C [198°F] are expected, vent flows might be reduced significantly. . ."

The following are quotes from Dr. Craig Beyler, Hughes Associates, Inc. regarding the operation of smoke and heat (roof) vents in buildings protected by a sprinkler system:

"The experimental studies have shown that . . . current design practices are likely to limit the number of vents operated to one and vents may in fact not operate at all in very successful sprinkler operations." (Page 1, "Interaction of Sprinklers with Smoke and Heat Vents")

Not only is the fear of early operation not founded, current design practice will likely lead to 0-1 vents operating" ("Page 61,"

"Sprinkler/Vent Interactions-What people think, what we know, and what we don't.")

"Eliminates Need for Manual Venting? No" (Page 42, ""Sprinkler/Vent Interactions-What people think, what we know, and what we don't.")

"Revised design methods for early operation of vents are needed" (Page 61, "Sprinkler/Vent Interactions-What people think, what we know, and what we don't.")

Given the above, it can be concluded that smoke and heat (roof) vents do not actually operate as expected in buildings protected by a sprinkler system. Based upon this, it can be concluded that there is no technical basis for permitting an increase in travel distance of 150 feet beyond the travel distance permitted for Group F-1 and S-1 occupancies protected by a sprinkler system when smoke and heat (roof) vents are provided.

Bibliography

1. "Sprinkler, Smoke & Heat Vent, Draft Curtain Interaction -- Large Scale Experiments and Model Development" (NISTIR 6196-1), Kevin B. McGrattan, Anthony Hamins, David Stroup, September 1998.
<http://www.fire.nist.gov/bfrlpubs/fire98/PDF/f98069.pdf>
2. "Interaction of Sprinklers with Smoke and Heat Vents", Craig L. Beyler and Leonard Y. Cooper, February 1999.
<http://www.haifire.com/publications/Paper21.pdf>
3. "Sprinkler/Vent Interactions-What people think, what we know, and what we don't.", Dr. Craig Beyler, Hughes Associates, Inc. (undated presentation).
<http://www.haifire.com/presentations/Sprinkler%20Vent%20Interactions%20-%20NFPA%202000.pdf>
4. NFPA 204, Standard for Smoke and Heat Venting (2002 edition).

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Fire fighter safety is a concern in these buildings. In this situation, the tenability in the building will diminish even with the sprinklers in operation, and the 400 feet in and 400 feet out in a building is a hazard for these responders. The correlative reference in the IFC should be struck for consistency.

Assembly Action:

None

Final Hearing Results

E114-07/08

AS

Code Change No: E121-07/08

Original Proposal

Sections: 1017.2 (IFC [B] 1017.2)

Proponent: John Williams, State of Washington Department of Health, Construction Review Services

Revise as follows:

1017.2 (IFC [B] 1017.2) (Supp) Corridor width. The minimum corridor width shall be as determined in Section 1005.1, but not less than 44 inches (1118 mm).

Exceptions:

1. Twenty-four inches (610 mm)—For access to and utilization of electrical, mechanical or plumbing systems or equipment.
2. Thirty-six inches (914 mm)—With a required occupant capacity of less than 50.
3. Thirty-six inches (914 mm)—Within a dwelling unit.
4. Seventy-two inches (1829 mm)—In Group E with a corridor having a required capacity of 100 or more.
5. Seventy-two inches (1829 mm)—In corridors ~~and areas serving gurney traffic in surgical Group I, health care centers for ambulatory patients receiving occupancies where patients receive~~ outpatient medical care, which causes the patient to be not capable of self-preservation
6. Ninety-six inches (2438 mm)—In Group I-2 in areas where required for bed movement.

The required width of corridors shall be unobstructed.

Exception: Doors complying with Section 1005.2.

Reason: The purpose of this code change is to revise outdated material. The combination of the term "surgical Group I" with the term "outpatients" does not capture the intent of the code. It has become a common industry practice to perform some surgical procedures in "ambulatory surgery centers" without 24 hour care. Such facilities are currently classified as a B occupancy. This code is meant to apply to outpatient surgical areas, which could be typical hospitals under Group I or "ambulatory surgery centers" under Group B.

This change in medical industry practice is being addressed by a CTC workgroup. This change would require a wider corridor wherever there is outpatient surgery, not just Group I. This wider corridor is needed only where there is gurney traffic, not in business office areas.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language is a clarification that this corridor width is applicable to Group B and Group I facilities where gurney traffic occurs, not just Group I.

Assembly Action:

None

Final Hearing Results

E121-07/08

AS

Code Change No: E122-07/08

Original Proposal

Sections: 1017.4 (IFC [B] 1017.4) (IMC [B] 601.2)

Proponent: John Williams, State of Washington Department of Health, Construction Review Services

Revise as follows:

1017.4 (IFC [B] 1017.4) (IMC [B] 601.2) Air movement in corridors. Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

Exceptions:

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m²) or less in area, utilization of corridors for conveying return air is permitted.
4. Incidental air movement from pressurized rooms within healthcare facilities, provided that the corridor is not the primary source of supply or return to the room.

Reason: The purpose of this code change is to clarify the code. Healthcare facilities require direct pressurization control of certain rooms to provide a clean or sterile environment for patients. For example, operating rooms and pharmacies are required to be positively pressurized, resulting in a general air movement out of the room. This ensures that airborne contaminants do not infect a sterile procedures or supplies. Pressurization is achieved by supplying air at a greater or lesser rate than the return air. Often code officials interpret that this resulting "incidental air" that flows in or out of the room violates this section.

The proposed language recognizes the need of infection control and clarifies that the corridor should not be the primary source of supply or return. There shall be supply and return air within the room. If the concept of room pressurization for infection control is not allowed there is a daily threat of patients being infected. This should be balanced with the occasional threat of fire

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: An allowance for pressurization of rooms within certain hospital areas where the spreading of germs or contaminants is a concern is appropriate. This is incidental air for the space and will not be a safety hazard for the supply and return within the room.

Assembly Action:

None

Final Hearing Results

E122-07/08

AS

Code Change No: E126-07/08

Original Proposal

Sections: 1019.1 (IFC [B] 1019.1)

Proponent: Gerald Anderson, City of Overland Park, KS, representing himself

Revise as follows:

1019.1 (IFC [B] 1019.1) (Supp) Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1019.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story shall be maintained until arrival at grade or the public way.

Exceptions:

1. As modified by Section 403.15 (additional exit stairway).
2. As modified by Section 1019.2.
3. Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be provided the minimum number of approved independent exits required by Table 1019 on each story.
4. In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.
5. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at grade level, are permitted to have one exit.

Reason: The purpose of this code change is to make allowance for those rooms or spaces that have exits independent of the building exits. The exits serving these spaces exit directly at grade. Often times due to grade differentiations these rooms spaces may exit at different levels, thus I did not speak to exits from the basement or first story.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

1019.1 (IFC [B] 1019.1) (Supp) Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1019.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story shall be maintained until arrival at grade or the public way.

Exceptions:

1. As modified by Section 403.15.
2. As modified by Section 1019.2.
3. Rooms and spaces within each story provided with and having access to a means of egress that complies with Exception 3 or 4 in Section 1016.1 shall not be required to be provided the minimum number of approved independent exits required by Table 1019 on each story.
4. In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 or 903.3.1.2.
5. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at ~~grade level~~ the level of exit discharge, are permitted to have one exit.

Committee Reason: The modification is for coordination with the revision to level of exit discharge approved in the committee actions on E8-07/08 and E5-06/07. There are situations where rooms or spaces have independent exits directly to the outside of a building, similar to what is permitted in Section 1019.2, Exception 3. As long as these spaces meet provisions for spaces with one means of egress with access directly to the outside, there is an adequate level of safety provided.

Assembly Action:

None

Final Hearing Results

E126-07/08

AM

Code Change No: **E127-07/08**

Original Proposal

Sections: 1019.2, Table 1019.2, 1015.1, Table 1015.1 (IFC [B] 1019.2, [B] Table 1019.2, [B] 1015.1, [B] Table 1015.1)

Proponent: Jonathan C. Siu, City of Seattle Department of Planning and Development, Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1019.2 (IFC [B] 1019.2) (Supp) ~~Stories with one exit.~~ Single exits. Only one exit shall be required from Group R-3 occupancy buildings or from stories of other buildings as indicated in Table 1019.2. ~~specified below:~~ Occupancies shall be permitted to have a single exit in buildings otherwise required to have more than one exit if the areas served by the single exit do not exceed the limitations of Table 1019.2. Mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1019.2 for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. Basements with a single exit shall not be located more than one story below grade plane.

1. Stories meeting the limitations of Table 1021.2.
2. Buildings of Group R-3 occupancy.

**TABLE 1019.2 (IFC [B] TABLE 1019.2)
(Supp) STORIES WITH ONE EXIT**

STORY ABOVE GRADE PLANE	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE TO EXIT
First story or basement	A, B ^d , E ^e , F ^d , M, U, S ^d	49 occupants and 75 feet travel distance
	H-2, H-3	3 occupants and 25 feet travel distance
	H-4, H-5, I, R	10 occupants and 75 feet travel distance
	S ^a	29 occupants and 100 feet travel distance
Second story	B ^b , F, M, S ^a	29 occupants and 75 feet travel distance
	R-2	4 dwelling units and 50 feet travel distance
Third Story	R-2 ^c	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 3048.mm

- a. For the required number of exits for parking structures, see Section 1019.1.1.
- b. For the required number of exits for air traffic control towers, see Section 412.1.

1015.1 (IFC [B] 1015.1) (Supp) Exits or exit access doorways from spaces. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds one of the values in Table 1015.1.

Exception: In Groups R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Sections 1015.3, 1015.4, 1015.5, 1015.6 or 1015.6.1.

Exception: Group I-2 occupancies shall comply with Section 1014.2.2.

Where a building contains mixed occupancies, each individual occupancy shall comply with the applicable requirements for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1.

**TABLE 1015.1 (IFC [B] TABLE 1015.1)
SPACES WITH ONE MEANS OF EGRESS EXIT OR EXT ACCESS DOORWAY**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E ^a , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupant load is 10.

Reason: This proposal is intended to follow up on Item E136-06/07 of the previous code development cycle. The City of Portland, Oregon, proponents of that submittal, correctly identified shortcomings in the 2006 Table 1019.2. The Means of Egress Code Development Committee and the membership agreed as the item was approved and appears in the 2007 Supplement. As much as the code change represents a significant improvement, specific details remain unaddressed. The City of Seattle frequently encounters single exit designs and we feel that too much is presently left to interpretation. This proposal primarily adds explanatory language to the section text. It is felt that this more detailed verbiage is necessary to provide clarity and lend to uniformity in application of single exit provisions. An indication that this is necessary is offered in the 2006 International Building Code, Code and Commentary, Volume 1. That document makes two statements of questionable technical merit or history. For example, it states, "Also, this section assumes single occupancy buildings. The use of these provisions for mixed occupancies is subject to approval by the building official." Section 1019.1 or 1019.2 do not make that distinction and previous editions of the commentary have not either. The 2006 Commentary also states, "It is important to note that the provisions in Section 1019.2 apply to entire buildings only, not individual stories or fire areas." This statement has obviously been nullified by the 2007 Supplement.

The reformatting of Table 1019.2 in the 2007 Supplement goes a long way in implying the purpose of the table. That is, to indicate the combination of variables under which a given occupancy may be served by a single exit. It is felt that these provisions are intended to be used in combination based on their individual merit. For example, a building of any height where the remainder of the building is served by two or more exits may have a Group M occupancy at the second story of the building so long as that occupancy has an occupant load of not more than 29 persons and the travel distance does not exceed 75 feet. This obviously assumes no cumulative occupant loads as regulated by Section 1004.1. Should one occupancy egress through another occupancy, the cumulative occupant load and applicable travel distance would serve as entry values for Table 1019.2. Additionally, the same building could have a Group A occupancy at the first story of the building provided that the occupant load and the travel distance did not exceed 49 occupants and 75 feet, respectively.

Section 1001.1 fundamentally requires that, "Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof." Clearly, means of egress provisions apply to the "portions served" and may be designed independently of other "portions served" within a given building. The proposed second sentence of Section 1019.2 makes this distinction. This portion-by-portion philosophy also potentially applies to mixed occupancies so long as the individual occupancies do not exceed the limitations for those occupancies as delineated in Table 1019.2. The Boeing Company has been instrumental in the development of current IBC mixed occupancy requirements. They share our concern about the vagueness of single exit provisions and are co-proponents of this proposal. Boeing noted that the perceived limitation of mixed occupancies in individual story applications could also be applied to individual spaces given the similarity of threshold requirements in Section 1015.1. Accordingly, that section has also been modified to clarify mixed occupancy requirements. Additionally, the title of Table 1015.1 has been altered to agree with the title of the section and the text in Section 1015.1.

Lastly, and to support a position stated in the 2006 Commentary, the last sentence of Section 1019.2 stipulates that single exit basement applications are limited to the first story below grade plane. To be consistent with the allowance for single exit basements, the column heading in Table 1019.2 has been changed to acknowledge that the story could be above or below grade plane (basement).

In summary, this proposal provides needed amplification of single exit provisions from various stories within a building. It provides necessary guidance for designers and code enforcement officials alike and will lend to more uniform and appropriate interpretations of this important concept.

Cost Impact: The code proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal adds consistency and clarifies the provisions for single exit buildings as provided in the 2007 Supplement.

Assembly Action:

None

Final Hearing Results

E127-07/08

AS

Code Change No: **E129-07/08**

Original Proposal

Sections: 1020.1 (IFC [B] 1020.1)

Proponent: Jay Wallace, The Boeing Company

Revise as follows:

1020.1 (IFC [B] 1020.1) (Supp) Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Exit enclosures shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1021, except as permitted in Section 1024.1. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1. The stairway is open to not more than one story above the story at the level of exit discharge; or
The stairway is open to not more than one story below the story at the level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6, are not required to be enclosed.
6. Means of egress stairways as required by Section 410.5.3 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries and press boxes as provided for in Section 1025.5.1, are not required to be enclosed.

Reason: This proposal is intended to clarify a fundamental means of egress provision. The relationship between vertical exit enclosures and exit passageways is an extremely important one for the maintenance of egress continuity and yet, the code does not specifically state the requirement. Section 1024.1 states, "Exits shall discharge directly to the exterior of the building." Section 1019.3 states, "Exits shall be continuous from the point of entry into the exit to the exit discharge." Section 1019.1 states, "Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge." Section 1020.1.1 states, "Where interior exit enclosures are extended to the exterior of a building by an exit passageway..." Section 1021.3 states, "Exit passageway enclosures shall have ... fire-

resistance rating, and not less than that required for any connecting exit enclosure.” This collection of requirements obviously implies the extension of exit enclosures to the exterior of the building by means of an exit passageway; however, Section 1020.1 Enclosures required, does not make the direct statement of this important egress provision. The added sentence also references the exceptions to the exit (enclosure) leading directly to the exterior. These exceptions arguably belong in Section 1018 or 1020; however, given their present location in Section 1024.1, a cross-reference is appropriate and will assist users who may not know to look in the exit discharge section for this information. The proposed revision will assist code users by clearly stating this fundamental egress requirement.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language will clarify a vague area of the code by indicating that the exit or exit passageway must connect to the outside.

Assembly Action:

None

Final Hearing Results

E129-07/08

AS

Code Change No: E130-07/08

Original Proposal

Sections: 706.7, 1020.1.1 (IFC [B] 1020.1.1), 1020.1.6 (IFC [B] 1020.1.6), 1020.1.7 (IFC [B] 1020.1.7), 1020.1.7.1 (IFC [B] 1020.1.7.1), 1020.2 (New) (IFC [B] 1020.2 (New)), 1020.2.1 (New) (IFC [B] 1020.2.1 (New)), 1021.3 (IFC [B] 1021.3), 1021.4 (IFC [B] 1021.4)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

1. Revise as follows:

706.7 (Supp) Openings. Openings in a fire barrier shall be protected in accordance with Section 715. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 156 square feet (15 m²). Openings in exit enclosures and exit passageways shall also comply with Sections 1020.1.1 and 1021.4, respectively.

Exceptions:

1. Openings shall not be limited to 156 square feet (15 m²) where adjoining floor areas are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Openings shall not be limited to 156 square feet (15 m²) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door serving an exit enclosure.
3. Openings shall not be limited to 156 square feet (15 m²) or an aggregate width of 25 percent of the length of the wall where the opening protective assembly has been tested in accordance with ASTM E 119 or UL 263 and has a minimum fire-resistance rating not less than the fire-resistance rating of the wall.
4. Fire window assemblies permitted in atrium separation walls shall not be limited to a maximum aggregate width of 25 percent of length of the wall.
5. Openings shall not be limited to 156 square feet (15m²) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door assembly in a fire barrier separating an exit enclosure from an exit passageway in accordance with Section 1020.2.1.

2. Add new text as follows:

1020.2 (IFC [B] 1020.2) Termination. Exit enclosures shall terminate at an exit discharge or a public way.

Exception: An exit enclosure shall be permitted to terminate at an exit passageway complying with Section 1021 provided the exit passageway terminates at an exit discharge or a public way.

1020.2.1 (IFC [B] 1020.2.1) Extension. Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit enclosure shall be separated from the exit passageway by a fire barrier constructed in accordance with Section 706 or a horizontal assembly constructed in accordance with Section 711, or both. The fire-resistance rating shall be at least equal to that required for the exit enclosure. A fire door assembly complying with Section 715.4 shall be installed in the fire barrier to provide a means of egress from the exit enclosure to the exit passageway. Openings in the fire barrier other than the fire door assembly are prohibited. Penetrations of the fire barrier are prohibited.

Exception: Penetrations of the fire barrier in accordance with Section 1020.4 shall be permitted.

3. Revise as follows:

4020.1.4 (IFC [B] 4020.1.4) 1020.3 (IFC [B] 1020.3) Openings and penetrations. Exit enclosure opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit enclosures other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.

~~Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly conforming to the requirements in Section 715.4. Fire door assemblies in exit enclosures shall comply with Section 715.4.4.~~

Elevators shall not open into an exit enclosure.

(Renumber Sections 1020.1.2 through 1020.1.5 as Sections 1020.4 through 1020.7)

4020.1.6 (IFC [B] 4020.1.6) 1020.8 (IFC [B] 1020.8) (Supp) Floor identification signs. A sign shall be provided at each floor landing in ~~interior~~ exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1 shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

4020.1.7 (IFC [B] 4020.1.7) 1020.9 (IFC [B] 1020.9) Smokeproof enclosures and pressurized stairways. In buildings required to comply with Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

4020.1.7.1 (IFC [B] 4020.1.7.1) 1020.9.1 (IFC [B] 1020.1.9.1) Enclosure exit Termination and extension. A smokeproof enclosure or pressurized stairway shall ~~exit into~~ terminate at an exit discharge or a public way ~~or into an exit passageway, yard, or open space having direct access to a public way.~~ The smokeproof enclosure or pressurized stairway shall be permitted to be extended by an exit passageway in accordance with Section 1020.2. The exit passageway shall be without ~~other~~ openings other than the fire door assembly required by Section 1020.2 and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire-resistance-rated construction.

Exceptions:

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. Openings in the exit passageway serving a pressurized stairway are permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.
3. The fire barrier separating the smokeproof enclosure or pressurized stairway from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure or pressurized stairway.

4. A smoke proof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1024.

(Renumber Section 1020.1.7.2 as Section 1020.9.2)

1021.3 (IFC [B] 1021.3) [Supp] Construction. Exit passageway enclosures shall have walls, floors and ceilings of not less than 1-hour fire-resistance rating, and not less than that required for any connecting exit enclosure. Exit passageways shall be constructed as fire barriers in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

1021.4 (IFC [B] 1020.4) Termination. Exit passageways shall terminate at an exit discharge or a public way.

~~1021.4 (IFC [B] 1021.4)~~ **1021.5 (IFC [B] 1021.5) Openings and penetrations.** Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than ~~unexposed~~ ~~unprotected~~ exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where ~~interior~~ ~~an exit enclosure~~ ~~is~~ ~~extended to the exterior of a building~~ ~~an exit discharge or a public way~~ by an exit passageway, the ~~door assembly from the exit enclosure to the exit passageway shall be protected by a fire door conforming to the requirements in Section 715.4.~~ ~~Fire door assemblies in exit passageways shall also comply with Section 715.4.4~~ ~~1020.2.1.~~

Elevators shall not open into an exit passageway.

(Renumber Section 1021.5 as Section 1021.6)

Reason: The purpose of this proposal is to establish a technical basis for the option of extending an exit enclosure to an exit discharge or a public way by means of an exit passageway. It was prepared in conjunction with related proposals on editorial revisions to the provisions for exit enclosures and exit passageways, definitions of the means of egress components, and the technical provisions for smokeproof enclosures and pressurized stairways. Currently, there is no charging language permitting such an option, only references to the option in the third paragraphs of Sections 1020.1.1 and 1021.4 (Sections 1020.3 and 1021.5 in proposal). These paragraphs, in turn, reference a door assembly from the exit enclosure to the exit passageway and require it to be a fire door assembly, but there is no charging language requiring the door assembly. The paragraphs are also silent on what surrounds the door assembly, which is typically a wall or partition. Section 1002.1 defines "exit enclosure" and "exit passageway" as providing egress travel "to the exit discharge or the public way" but there is no charging language requiring such travel other than in the definitions, which should not be relied upon for providing technical requirements.

The references to a door assembly from the exit enclosure to the exit passageway have caused confusion when the exit passageway is used in conjunction with a smokeproof enclosure or a pressurized stairway. Requiring separation of the exit enclosure from the exit passageway with a fire barrier, where the passageway is used to extend an exit enclosure to an exit discharge or public way, typically has merit. The exit passageway is permitted by Section 1021.4 (Section 1021.5 in proposal) to have openings from rooms adjacent to the exit passageway provided they are limited to those necessary for exit access to the exit passageway from normally occupied spaces. A fire in one of these rooms could compromise the use of the exit passageway as a component of the means of egress. The fire barrier reduces the possibility of the connecting exit enclosure also being compromised, thus, preserving its function for other floor levels.

When the exit passageway is used in conjunction with a smokeproof enclosure or a pressurized stairway, however, the fire barrier could be detrimental to the operation of the mechanical system providing pressurization where the mechanical ventilation alternative of Section 909.20.4 is utilized. The fire barrier is also superfluous since Section 1020.1.7.1 (Section 1020.9.1 in proposal) prohibits openings into such exit passageways, thus, eliminating the hazard posed by openings from adjacent rooms to the passageway.

The proposal accomplishes the following: [code sections noted in ()]

1. Provides charging language requiring exit enclosures to terminate at an exit discharge or a public way. (1020.2)
2. Provides charging language permitting the option of using an exit passageway to extend an exit enclosure to an exit discharge or a public way. (1020.2, Exception)
3. Requires separation of the exit enclosure from the exit passageway by means of a fire barrier when the option of using an exit passageway to extend an exit enclosure is utilized. (1020.2.1)
4. Specifies requirements for the fire barrier that are equivalent to that of the connecting exit enclosure. (1020.2.1)
5. Adds an exception to Section 706.7 for the fire barrier consistent with Exception #2. (706.7, Exception 5)
6. Provides charging language requiring smokeproof enclosures and pressurized stairways to terminate at an exit discharge or a public way, and permitting the option of using an exit passageway to extend the smokeproof enclosure or pressurized stairway to an exit discharge or a public way in the same manner as for exit enclosures. (1020.9.1)
7. Revises the language on openings into an exit passageway used to extend a smokeproof enclosure or pressurized stairway by prohibiting them except for the fire door assembly in the fire barrier separating the smokeproof enclosure or pressurized stairway from the exit passageway and those necessary for egress from the exit passageway in conjunction with similar language in the second paragraph of Section 1021.4 (Section 1021.5 in proposal) on openings in exit passageways. (1020.9.1)
8. Provides an exception to the requirement for separation of the smokeproof enclosure or pressurized stairway from the exit passageway by means of a fire barrier when the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure or pressurized stairway. (1020.9.1, Exception 3)
9. Provides charging language requiring exit passageways to terminate at an exit discharge or a public way. (1021.4)
10. Provides charging language permitting the option of using an exit passageway to extend an exit enclosure to an exit discharge or a public way in conjunction with Item #2 above. (1021.5, paragraph #3)

In proposed Section 1020.2.1, "interior exit enclosures," currently in the third paragraph of Section 1020.1.1, is changed to "exit enclosures" because "interior" is judged to be superfluous. All exit enclosures are interior enclosures including those with exterior walls (refer to current Section 1020.1.4). Note that Section 1002.1 defines an "interior stairway" as a "stairway not meeting the definition of exterior stairway." The same change is proposed in Sections 1020.1.6 and 1021.4 (Sections 1020.8 and 1021.5 in proposal), which represent the only other instances of "interior exit enclosure" in the 2006 IBC.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

In proposed Section 1020.2.1, “exterior of a building,” currently in the third paragraph of Section 1020.1.1, is changed to “exit discharge” for consistency with the definitions in Section 1002.1 of “exit enclosure”, which is defined as providing a protected path of egress travel to the exit discharge or the public way, and “exit,” which is defined as providing a protected path of egress travel between the exit access and the exit discharge. It is also changed for consistency with Section 1024.1, which requires exits to discharge directly to the exterior of the building (with exceptions).

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language would clarify the intent of exit and exit discharge. This fills voids in the current text regarding the connection between the exit enclosure and exit passageway, and what happens where an pressurized stairway discharges to an exit passageway.

Assembly Action:

None

Final Hearing Results

E130-07/08

AS

Code Change No: **E134-07/08**

Original Proposal

Sections: 1020.1.7, 1020.1.7.1 (IFC [B] 1020.1.7, [B] 1020.1.7.1)

Proponent: Philip Brazil, PE, Reid Middleton, Inc., representing himself

Revise as follows:

1020.1.7 (IFC [B] 1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the ~~exits of a building that serves stories where the~~ exit enclosures serving a story with a floor surface that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such ~~floor levels~~ stories shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

1020.1.7.1 (IFC [B] 1020.1.7.1) Enclosure exit. A smokeproof enclosure or pressurized stairway shall exit into a public way or into an exit passageway, yard or open space having direct access to a public way. The exit passageway shall be without other openings and shall be separated from the remainder of the building by 2-hour ~~fire-resistance-rated construction~~ fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both.

Exceptions:

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. Openings in the exit passageway serving a pressurized stairway are permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.
3. A smokeproof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1024.

Reason: In Section 1020.1.7, serving “such floor levels” is changed to serving “such stories” for internal consistency within the section where it specifies exits serving a story whose floor surface is located as noted.

In Section 1020.1.7, “exit” is changed to “exit enclosure” for correlation with Section 1020.1 requiring enclosure of all interior exit stairways and interior exit ramps unless exempted. If each exit with a floor surface more than 75 feet above the lowest level of fire department vehicle access or more than 30 feet below the level of exit discharge were required to be a smokeproof enclosure or pressurized stairway, many of the exceptions to the requirement for enclosure in Section 1020.1 would be negated, which is not the intent.

The other proposed changes are editorial. In Section 1020.1.7, exits "of a building that serves stories where the floor surface is located" as noted is changed to exits "serving a story with a floor surface located" as noted. In Section 1020.1.7.1, "fire-resistance-rated construction" at exit passageways is changed to "fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both" for consistency with similar language in Section 1021.3 for exit passageways.

This proposal was prepared in conjunction with related proposals on editorial revisions to the provisions for exit enclosures and exit passageways, definitions of the means of egress components, and exit passageways used to extend exit enclosures to an exit discharge or a public way.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Errata: Modify the proposal as follows.

1020.1.7 (IFC [B]1020.1.7) Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the exit enclosures serving a story with a floor surface ~~that is~~ located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the level of exit discharge serving such stories shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

(Portions of proposal not shown remain unchanged)

Committee Action:

Approved as Submitted

Committee Reason: The proposal offers specific language and references for separation requirements. This coordinates provisions that were started in the 2007 Supplement.

Assembly Action:

None

Final Hearing Results

E134-07/08

AS

Code Change No: E136-07/08

Original Proposal

Sections: 1022.1, 1022.4, (IFC [B] 1022.1, [B] 1022.4)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1022.1 (IFC [B] 1022.1) Horizontal exits. Horizontal exits serving as an exit in a means of egress system shall comply with the requirements of this section. A horizontal exit shall not serve as the only exit from a portion of a building, and where two or more exits are required, not more than one-half of the total number of exits or total exit width shall be horizontal exits.

Exceptions:

1. Horizontal exits are permitted to comprise two-thirds of the required exits from any building or floor area for occupancies in Group I-2.
2. Horizontal exits are permitted to comprise 100 percent of the exits required for occupancies in Group I-3. At least 6 square feet (0.6 m²) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

~~The adjoining compartment Every fire compartment for which credit is allowed in connection with a horizontal exit shall not be required to have a stairway or door leading directly outside, provided the adjoining fire compartments have refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.~~

~~The area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant capacity imposed by persons entering it through horizontal exits from other areas. At least one of its exits shall lead directly to the exterior or to an exit enclosure.~~

1022.4 (IFC [B] 1022.4) Capacity of refuge area. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m²) for each occupant to be accommodated therein.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

Exception: The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet (0.6 m²) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m²) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m²) per occupant for nonambulatory occupancies in Group I-2.

Reason: This proposal intends to clarify horizontal exit provisions. First, the second paragraph of Section 1022.1 currently contains some confusing language referencing a fire compartment credit concept that is not recognized anywhere in Chapter 10. The paragraph has been rewritten in more contemporary language while maintaining the original technical intent. Secondly, the third paragraph of Section 1022.1 has been relocated to Section 1022.4. That provision deals with the design of the means of egress from the refuge area and is more appropriately located in the latter section. Approval of this proposal will clarify the intent of the code and assist users in the proper determination of horizontal exit technical requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Errata: Replace the proposal with the following:

1022.1, 1022.4, (IFC [B] 1022.1, [B] 1022.4)

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Revise as follows:

1022.1 (IFC [B] 1022.1) Horizontal exits. Horizontal exits serving as an exit in a means of egress system shall comply with the requirements of this section. A horizontal exit shall not serve as the only exit from a portion of a building, and where two or more exits are required, not more than one-half of the total number of exits or total exit width shall be horizontal exits.

Exceptions:

1. Horizontal exits are permitted to comprise two-thirds of the required exits from any building or floor area for occupancies in Group I-2.
2. Horizontal exits are permitted to comprise 100 percent of the exits required for occupancies in Group I-3. At least 6 square feet (0.6 m²) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

~~Every fire compartment for which credit is allowed in connection with a horizontal exit shall not be required to have a stairway or door leading directly outside, provided the adjoining fire compartments have stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.~~

~~The area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant capacity imposed by persons entering it through horizontal exits from other areas. At least one of its exits shall lead directly to the exterior or to an exit enclosure.~~

1022.4 (IFC [B] 1022.4) Capacity of refuge area. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m²) for each occupant to be accommodated therein.

Exception: The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet (0.6 m²) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m²) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m²) per occupant for nonambulatory occupancies in Group I-2.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

Exception: The adjoining compartment shall not be required to have a stairway or door leading directly outside, provided the refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.

Reason: This proposal intends to clarify horizontal exit provisions. First, the third paragraph of Section 1022.1 has been relocated to Section 1022.4. That provision deals with the design of the means of egress from the refuge area and is more appropriately located in the latter section. Secondly, the second paragraph of Section 1022.1 currently contains some confusing language referencing a fire compartment credit concept that is not recognized anywhere in Chapter 10. The paragraph has been rewritten in more contemporary language while maintaining the original technical intent. Additionally, based on IBC errata, the provision in question was originally intended to be an exception. Accordingly, it has been retained as an exception; however, it also been placed in context following the proposed second paragraph of Section 1022.4. Approval of this proposal will clarify the intent of the code and assist users in the proper determination of horizontal exit technical requirements.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: An errata has been issued for Section 1022.1, Exception 2. In the 2000 IBC this section had two paragraphs under the exception. The 2003 IBC and 2006 IBC show the second paragraph of Exception 2 moved out as a main section paragraph. There was no code change proposal to relocate this paragraph, therefore, an errata has been issued for the 2003 and 2006 IBC to locate the paragraph starting "Every fire compartment...." as part of Exception 2.

Committee Action:

Approved as Submitted

Committee Reason: The proposal places the language in a better location to improve understanding of what is permitted for horizontal exits.

Assembly Action:

None

Final Hearing Results

E136-07/08

AS

Code Change No: E138-07/08

Original Proposal

Sections: 1024.1 (IFC [B] 1024.1)

Proponent: Lee J. Kranz, City of Bellevue, WA, representing The Washington Association of Building Officials (WABO), Technical Code Development Committee

Revise as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building. Exceptions 1 and 2 below shall not be used concurrently within a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
 - 1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.

2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
 - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Reason: This code change clarifies for designers and code officials that only one of the two exceptions related to reentering a building from an exit enclosure may be used in a single building. As currently written, it appears that both exceptions could be used in the same building. The IBC Commentary book indicates "or" but there is no code basis to support that assumption.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: In a four exit building the proposed language would prohibit the option of one lobby, one vestibule and two exits to the exterior. The committee agreed that using the exceptions to exempt 100% of the exits of a building from going to the exterior was not the intent and requested the proponent to return with revised language.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Lee J. Kranz, City of Bellevue, WA, representing Washington Association of Building Officials Technical Code Development Committee, requests Approval as Modified by this public comment.

Modify proposal as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 below shall not be used concurrently within a building exceed 50% of the number and capacity of the required exits.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
 - 1.1. Such exit enclosures egress to a free and unobstructed way to the exterior of the building, which way is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).

- 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
- 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Commenter's Reason: As advised by the Egress Committee in Palm Springs, the language has been modified to make it clear that not more than 50% of the required exit enclosures may utilize exceptions #1 & #2 concurrently. This is necessary as there will be cases where more than 2 exit enclosures are required and the revised language resolves the issue.

Final Hearing Results

E138-07/08

AMPC1

Code Change No: E140-07/08

Original Proposal

Sections: 1024.1, (IFC [B] 1024.1)

Proponent: Jay Wallace, The Boeing Company

Revise as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
 - 1.1. Such exit enclosures egress to a free and unobstructed path of travel way to an exit at the exterior of the building, which way and such exit is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
 - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Reason: Exception 1 allows egress through areas along the way to the exterior of the building but those areas are not well defined. As written, it could be interpreted to allow for a free and unobstructed way that winds through various areas on the level of discharge as long as the way is readily visible and identifiable. The intent of the exception is to allow for egress along a path of travel which leads directly to an exit at the exterior of the building that can be seen from the door of the exit enclosure. This revision clarifies that the exit door to the exterior of the building must be visible upon egress from the exit enclosure which is how this section is being interpreted in most jurisdictions today.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed language clarifies that the exit signage is not enough in the lobby used for exit discharge. The exit door must be visible from the bottom of the exit stair.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Lori Lee Graham, City of Portland, OR, representing herself, requests Approval as Modified by this public comment.

Modify proposal as follows:

1024.1 (IFC [B] 1024.1) (Supp) General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
 - 1.1. Such exit enclosures egress to a free and unobstructed path of travel to an ~~exterior exit door at the exterior of the building~~ and such exit is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
 - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1022 shall not be required to discharge directly to the exterior of the building.

Commenter's Reason: The proposal as approved by the committee has a flaw in that it requires an unobstructed path to an "exit" at the exterior of the building. Since the definition of exit includes 6 different things, this exit could be another exit enclosure (vertical) or an exit passageway, or an exterior exit stairway. We believe the intent of the proponent and of the original code is that this is specifically an exterior exit door.

Final Hearing Results

E140-07/08

AMPC1

Code Change No: E141-07/08

Original Proposal

Sections: 1025.1.1, (IFC [B] 1025.1.1)

Proponent: Gerard Hathaway, New York State Department of State Building Codes Division, representing ICC 300 Development Committee

Revise as follows:

1025.1.1 (IFC [B] 1025.1.1) Bleachers. Bleachers, grandstands, and folding and telescopic seating, that are not building elements, shall comply with ICC 300.

Reason: Bleachers, Grandstands and Folding and Telescopic Seating are addressed in ICC 300. The purpose of the proposed scoping change is to clarify that bleachers, grandstands and folding and telescopic seating are limited to items that are separate, independent structures from the buildings. They may be located within buildings or combined with spaces constructed under or over (e.g. concessions booths, toilets, roofs). The ICC 300 addresses specifics for the listed types of seating only. The ICC 300 is not intended to be utilized for single row seating that is supported directly on the floor system.

Note that 'building element' is a defined term that was added to the code by FS04-06/07.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The inclusion of the term "not a building element" clarifies that bleachers and grandstands are not part of a floor system. Therefore, where ICC 300 *Bleachers, Grandstands and Folding and Telescopic Seating* should be used is also clarified.

Assembly Action:

None

Final Hearing Results

E141-07/08

AS

Code Change No: E144-07/08

Original Proposal

Sections: 1002.1 (IFC [B] 1002.1)

Proponent: Bob Eugene, Underwriters Laboratories Inc.

Add new definitions as follows:

1002.1 (IFC [B] 1002.1) Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

PHOTOLUMINESCENT. Having the property of emitting light that continues for a length of time after excitation by visible or invisible light has been removed.

SELF-LUMINOUS. Illuminated by a self-contained power source, other than batteries, and operated independently of external power sources.

Reason: These terms are used in 2007 Supplement, Section 1011.4 and 1027.1.6. They should be defined for the user to better understand the differences between the two technologies.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The definitions are consistent with the referenced standards in Section 1027 in the 2007 Supplement. The definition is generic enough to allow for other technologies that were brought up during the floor testimony. Having it as a guide is helpful to users of the code.

Assembly Action:

None

Final Hearing Results

E144-07/08

AS

Code Change No: E145-07/08

Original Proposal

Sections: 1027.1.1, 1027.1.3, 1027.1.4, 1027.6, 1027.6.1 (New), 1027.6.2 (New) [IFC [B] 1027.1.1, [B] 1027.1.3, [B] 1027.1.4, [B] 1027.6, [B] 1027.6.1 (New), [B] 1027.6.2 (New)]

Proponent: Bob Eugene, Underwriters Laboratories Inc.

Revise as follows:

**SECTION 1027 (Supp)
EXIT PATH MARKINGS**

1027.1 (IFC [B] 1027.1) (Supp) General. Approved luminous markings delineating the exit path shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, of buildings of Group A, B, E, I, M, and R-1 having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and shall comply with Sections 1027.1.1 through 1027.1.7.

Exception: Exit path markings shall not be required in lobbies or areas of open parking garages, where such lobby or area is located on the level of exit discharge and complies with the exception to Section 1023.1.

1027.1.1 (IFC [B] 1027.1.1) (Supp) Steps. A stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed at a maximum of ½ inch (13 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than ½ inch (13 mm) down the vertical face of the step.

Exception: The minimum width of 1 inch (25 mm) shall not apply to outlining stripes listed in accordance with UL1994.

1027.1.2 (IFC [B] 1027.1.2) (Supp) Landings: The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

1027.1.3 (IFC [B] 1027.1.3) Handrails: All handrails and handrail extensions shall be marked with a stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for the entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 4 inches (102 mm).

Exception: The minimum width of 1 inch (25 mm) shall not apply to handrail stripes listed in accordance with UL1994.

1027.1.4 (IFC [B] 1027.1.4) (Supp) Perimeter demarcation lines: Stair landings and other floor areas within exit enclosures, with the exception of the sides of steps, shall be provided with demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 (25 mm) to 2 inches (51 mm) wide with interruptions not exceeding 4 inches (102 mm).

Exception: The minimum width of 1 inch (25 mm) shall not apply to outlining stripes listed in accordance with UL1994.

1027.1.4.1 (IFC [B] 1027.1.4.1) (Supp) Floor mounted demarcation lines: Perimeter demarcation lines shall be placed within 4 inches of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.2 (IFC [B] 1027.1.4.2) (Supp) Wall mounted demarcation lines: Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe no more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge.

Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.3 (IFC [B] 1027.1.4.3) (Supp) Transition. Where a wall mounted demarcation line transitions to a floor mounted demarcation line, or vice-versa, the wall mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor mounted demarcation line, thus forming a continuous marking.

1027.1.5 (IFC [B] 1027.1.5) (Supp) Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

1027.1.6 (IFC [B] 1027.1.6) (Supp) Materials. Materials shall comply with Section 1027.16.1 or 1027.1.6.2

1027.1.6.1 (IFC [B] 1027.1.6.1) Self-luminous and photoluminescent. Luminescent exit path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candles (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milicandelas per square meter after 90 minutes.

1027.1.6.2 (IFC [B] 1027.1.6.2) Externally powered. Externally powered exit path markings shall be listed in accordance with UL 1994.

1027.1.7 (IFC [B] 1027.1.7) Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

Reason: The minimum width requirement for an outline stripe is intended to ensure that the stripe, when installed, is sufficiently visible. For a stripe Listed per UL 1994, the visibility performance is determined using the actual width of the assembled product (UL 1994 does not accommodate field-applied paints), so there is no need to subsequently specify the minimum width in the installation code. This is not the case for paints or other raw materials that could be claimed to comply with ASTM E2072, which instead relies upon a field performance test. The proposed changes allow those products that have been performance tested and are manufactured in a closely controlled environment to be utilized in accordance with listing requirements.

Additionally, externally illuminated exit path markings should also be recognized for use where the external power source is sufficient to provide 90 minutes of power and the systems conform to the performance test of the adopted standard. This performance criterion is integral to the UL 1994 Listing program.

Cost Impact: The code change proposal will not increase the cost of the construction.

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

~~1027.1.6 (IFC [B] 1027.1.6) (Supp) Materials. Materials shall comply with Section 1027.16.1 or 1027.1.6.2~~

~~1027.1.6.1 (IFC [B] 1027.1.6.1) Self-luminous and photoluminescent. Luminescent exit path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:~~

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candles (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milicandelas per square meter after 90 minutes.

~~1027.1.6.2 (IFC [B] 1027.1.6.2) Externally powered. Externally powered exit path markings shall be listed in accordance with UL 1994.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: The proponent requested the modification because 'externally powered' is not under the purview of UL 1994. The proposal was approved because it would allow a different performance based requirement for photoluminescent materials. There were some concerns expressed regarding UL 1994 and if it is going to provide the same level of photoluminescence in the same conditions, specifically to handrails in turnings and transitions.

Assembly Action:

None

Final Hearing Results

E145-07/08

AM

Code Change No: E146-07/08

Original Proposal

Sections: 403.16, 1027.1, 1027.1.1, 1027.1.3, 1027.1.4, 1027.1.6 (IFC [B] 1027.1, [B] 1027.1.1, [B] 1027.1.3, [B] 1027.1.4, [B] 1027.1.6)

Proponent: James P. Colgate, RA, Esq, City of New York, Department of Buildings

Revise as follows:

403.16 (Supp) Exit Luminous egress path markings. ~~Exit Luminous egress~~ path markings shall be provided in accordance with Section 1027.

**SECTION 1027
EXIT LUMINOUS EGRESS PATH MARKINGS**

1027.1 (IFC [B] 1027.1) (Supp) General. Approved luminous egress path markings delineating the exit path shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, of buildings of Group A, B, E, I, M, and R-1 having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and shall comply with Sections 1027.1.1 through 1027.1.7.

Exceptions:

1. ~~Exit Luminous egress path markings shall not be required on the level of exit discharge in lobbies or areas of open parking garages, where such lobby or area is located on the level of exit discharge and complies with the exception to that serve as part of the exit path in accordance with Section 4023.4 1024.1, Exception 1.~~
2. Luminous egress path markings shall not be required in areas of open parking garages that serve as part of the exit path in accordance with Section 1024.1, Exception 3.

1027.1.1 (IFC [B] 1027.1.1) (Supp) Steps. A solid and continuous stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed at a maximum of ½ inch (13 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than ½ inch (13 mm) down the vertical face of the step.

1027.1.2 (IFC [B] 1027.1.2) (Supp) Landings: The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

1027.1.3 (IFC [B] 1027.1.3) (Supp) Handrails: All handrails and handrail extensions shall be marked with a solid and continuous stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for the entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 4 inches (102 mm).

1027.1.4 (IFC [B] 1027.1.4) (Supp) Perimeter demarcation lines: Stair landings and other floor areas within exit enclosures, with the exception of the sides of steps, shall be provided with solid and continuous demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 (25 mm) to 2 inches (51 mm) wide with interruptions not exceeding 4 inches (102 mm).

1027.1.4.1 (IFC [B] 1027.1.4.1) (Supp) Floor mounted demarcation lines: Perimeter demarcation lines shall be placed within 4 inches of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.2 (IFC [B] 1027.1.4.2) (Supp) Wall mounted demarcation lines: Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe no more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge. Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.3 (IFC [B] 1027.1.4.3) (Supp) Transition. Where a wall mounted demarcation line transitions to a floor mounted demarcation line, or vice-versa, the wall mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor mounted demarcation line, thus forming a continuous marking.

1027.1.5 (IFC [B] 1027.1.5) (Supp) Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

1027.1.6 (IFC [B] 1027.1.6) (Supp) Materials. ~~Luminescent exit~~ Luminous egress path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candle (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 milicandelas per square meter after 90 minutes.

1027.1.7 (IFC [B] 1027.1.7) (Supp) Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

Reason: Sections 403.16 and 1027 were added by two-thirds majority of the membership present at the ICC Final Action Hearing in Rochester. The purpose of this code change proposal is two-fold. The first is to correct terminology used throughout the aforementioned sections. Second, the proposal will clarify the graphic requirements for the proper execution of egress path marking. The change the exception to Section 1027.1 is to correctly reference the section for lobbies and parking garages that serve as part of the exit discharge.

First, this proposal will correct the terminology used in these sections to conform to the terminology used in the referenced standard UL 1994. This standard uses the term “luminous egress path markings”. Therefore, the term “luminescent” will be replaced with “luminous”, and the term “exit path” will be replaced with “egress path”. By aligning terminology with definitions utilized by the nationally recognized referenced standard UL 1994, practitioners and interpreters of the code will be able to mitigate confusion caused by potentially conflicting terms.

Second, this proposal will clarify that the luminous stripes shall be “solid and continuous”, rather than a series of dots, icons or chevrons. A consistent standard for the graphic representation of egress markings will enhance the utility of such markings and enable the safe egress of buildings.

First, the code change proposal to correct terminology can only facilitate the use of the myriad codes, standards, and local laws that govern the construction and use of buildings. All too often, identical terms are used by different codes and standards, but those terms may be defined very differently. Where possible, definitions ought to be replicated across the codes and national standards, and specific terms should be duplicated in both definition and context in order to establish regulations that are irrefutable in light of competing standards and rules.

Second, the code change proposal to clarify the graphic standard for egress path markings is necessary to maintain a universal ‘language’ irrespective of location. Much like the red octagon denoting a vehicular traffic ‘stop,’ a readily recognized graphic consistency can significantly enhance the occupants’ understanding of a building and its circulation, especially in unfamiliar environments. This proposed code clarification brings the graphic requirements into conformance with New York City’s low-location egress path marking requirements instituted in response to the attacks on the World Trade Center of September 11, 2001. New York City had comprehensively reviewed and tested several types of luminous egress path marking systems and found the “solid and continuous” stripes to be the most effective and have required such markings retroactively for all high rise business buildings. The proposal approved at the Final Action Hearing in Rochester in 2007 added Sections 403.16 and 1027.1 with the intent to introduce to the IBC the same requirements that are already found in the New York City. This proposal is an essential clarification to prevent non-solid and non-continuous marking stripes of the type that New York City already prohibits.

Bibliography:

1. City of New York, Department of Buildings. Building Code Reference Standard RS 6-1 and 6-1A (available at http://www.nyc.gov/html/dob/downloads/pdf/rs_6-1.pdf). Promulgated May 31, 2005.
2. City of New York, Department of Buildings. World Trade Center Building Code Task Force: Findings and Recommendations (available at <http://home2.nyc.gov/html/dob/downloads/pdf/wtcctcf.pdf>). February, 2003.
City of New York.
3. Local Law 26 of 2004, Section 15, modifying Building Code Section 27-283 (available at http://www.nyc.gov/html/dob/downloads/bldgs_code/locallaw26of04.pdf). Enacted May 24, 2004.
4. UL 1994-04, Luminous Egress Path Marking Systems, with revisions through February, 2005.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal provides some good clarifications. The term “luminous” is more consistent with the standard. The proposal clarified the requirements for exit discharge through lobbies or vestibules. The addition of “solid” and “continuous” will ensure that these markings are usable. The exception for open parking garages is needed. The proposal differentiates between the means of egress path and the luminescent path.

Assembly Action:

None

Final Hearing Results

E146-07/08

AS

Code Change No: E147-07/08

Original Proposal

Sections: 1027.1, 1027.1.6, 1027.2 (New), 1027.2.5 (New), 1027.2.6 (New), 1027.2.6.1 (New), 1027.2.6.2 (New), 1027.2.6.3 (New), 1027.3 (New), 1027.3.1 (New), 1027.7 (New), Chapter 35, (IFC [B] 1027.1, [B] 1027.1.6, [B] 1027.2 (New), [B] 1027.2.5 (New), [B] 1027.2.6 (New), [B] 1027.2.6.1 (New), [B] 1027.2.6.2 (New), [B] 1027.2.6.3 (New), [B] 1027.3 (New), [B] 1027.3.1 (New), [B] 1027.7 (New), Chapter 45)

Proponent: James P. Colgate, RA, Esq, City of New York, Department of Buildings; Thomas Jensen, City of New York Fire Department

1. Revise as follows:

SECTION 1027 (IFC [B] 1027) (Supp) EXIT PATH MARKINGS

1027.1 (IFC [B] 1027.1) (Supp) General. Approved luminous markings delineating the exit path shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, of buildings of Group A, B, E, I, M, and R-1 having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access and shall comply with Sections 1027.1.1 through 1027.1.7 in accordance with Sections 1027.2 through 1027.7.

Exception: Exit path markings shall not be required in lobbies or areas of open parking garages, where such lobby or area is located on the level of exit discharge and complies with ~~the exception to Section 4023.4~~ 1024.1 Exceptions 1 or 3.

1027.2 (IFC [B] 1027.2) Markings within exit enclosures. Egress path markings shall be provided in exit enclosures, including vertical exit enclosures and exit passageways, in accordance with Sections 1027.2.1 through 1027.2.6.

~~1027.1.1 (IFC [B] 1027.1.1)~~ 1027.2.1 (IFC [B] 1027.2.1) (Supp) Steps. A stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed at a maximum of ½ inch (13 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by not more than ½ inch (13 mm) down the vertical face of the step.

~~1027.1.2 (IFC [B] 1027.1.2)~~ 1027.2.2 (IFC [B] 1027.2.2) (Supp) Landings: The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

~~1027.1.3 (IFC [B] 1027.1.3)~~ 1027.2.3 (IFC [B] 1027.2.3) (Supp) Handrails: All handrails and handrail extensions shall be marked with a stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for the entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 4 inches (102 mm).

~~1027.1.4 (IFC [B] 1027.1.4)~~ 1027.2.4 (IFC [B] 1027.2.4) (Supp) Perimeter demarcation lines: Stair landings and other floor areas within exit enclosures, with the exception of the sides of steps, shall be provided with demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 (25 mm) to 2 inches (51 mm) wide with interruptions not exceeding 4 inches (102 mm).

~~1027.1.4.1 (IFC [B] 1027.1.4.1)~~ 1027.2.4.1 (IFC [B] 1027.2.4.1) (Supp) Floor mounted demarcation lines: Perimeter demarcation lines shall be placed within 4 inches of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.2 (IFC [B] 1027.1.4.2) 1027.2.4.2 (IFC [B] 1027.2.4.2) (Supp) Wall mounted demarcation lines:

Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe no more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge. Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such doors.

Exception: Demarcation lines shall not extend in front of exit doors that lead out of an exit enclosure and through which occupants must travel to complete the exit path.

1027.1.4.3 (IFC [B] 1027.1.4.3) 1027.2.4.3 (IFC [B] 1027.2.4.3) (Supp) Transition. Where a wall mounted demarcation line transitions to a floor mounted demarcation line, or vice-versa, the wall mounted demarcation line shall drop vertically to the floor to meet a complimentary extension of the floor mounted demarcation line, thus forming a continuous marking.

1027.2.5 (IFC [B] 1027.2.5) Obstacles. Obstacles at or below 6'-6" (1981 mm) in height and projecting more than 4" (102 mm) into the egress path shall be outlined with markings no less than 1" (25 mm) in width comprised of a pattern of alternating equal bands, of luminescent luminous material and black, with the alternating bands no more than 2" thick and angled at 45 degrees. Obstacles shall include, but are not limited to, standpipes, hose cabinets, wall projections, and restricted height areas. However, such markings shall not conceal any required information or indicators including but not limited to instructions to occupants for the use of standpipes.

1027.2.6 (IFC [B] 1027.2.6) Intervening doors within exit enclosures and discharge doors from exit enclosures. Doors through which occupants within an exit enclosure must pass in order to complete the exit path shall be provided with markings complying with Sections 1027.6.1 through 1027.2.6.3.

1027.2.6.1 (IFC [B] 1027.2.6.1) Low-location luminous marking for doors. The doors shall be identified by a low-location luminous marking complying with Section 1027.3.

1027.2.6.2 (IFC [B] 1027.2.6.2) Door Hardware markings. Door hardware shall be marked with no less than 16 in² (406 mm²) of luminous material. This marking shall be located behind, immediately adjacent to, or on the door handle and/or escutcheon. Where a panic bar is installed, such material shall be no less than 1" (25 mm) wide for the entire length of the actuating bar or touchpad.

1027.2.6.3 (IFC [B] 1027.2.6.3) Door frame markings. The top and sides of the door frame shall be marked with a solid and continuous 1" to 2" (25 mm to 51 mm) wide stripe. Where the door molding does not provide sufficient flat surface on which to locate the stripe, the stripe shall be permitted to be located on the wall surrounding the frame.

1027.3 (IFC [B] 1027.3) Markings where exit signs are provided. Where exit signs are provided in accordance with Section 1011 in interior corridors, at doors opening into exits, or within exit enclosures, approved low-location luminous egress path markings shall be provided. The top of the marking shall be not more than 18 inches (457 mm) above the finished floor. For doors, the marking shall be mounted on the door, or on the wall adjacent to latch side of the door with the nearest edge of the marking within 4 inches (100 mm) of the door frame.

1027.3.1 (IFC [B] 1027.3.1) Graphics. The marking shall comply with the following:

1. The marking shall contain the "emergency exit" symbol complying with the 1st line of Table 4.2 of NFPA 170, except that the color of the luminous portions shall be permitted to be a light, contrasting color in lieu of white. The exit symbol shall be least 4" (102 mm) high.
2. The marking shall contain the word EXIT printed in sans serif letters at least 4" (102 mm) high with strokes no less than ½" (13 mm). The color of the letters shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the letters are luminous and the background is the same color as the exit symbol.
3. In the case of markings that identify doors, the marking shall not be required to contain an arrow when mounted on the door, but shall contain an arrow when mounted on a wall. Any such arrow shall be at 45 degrees and at least 2 ¾" (70 mm) high and shall comply with the 3rd, 4th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the exit symbol is luminous and the background is the same color as the exit symbol.

4. In the case of markings that do not identify a door, the sign shall contain an arrow at least 2 3/4" (70 mm) high, complying with the 2nd, 3rd, 4th, 7th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminescent, or shall be a light color or white if the arrow is luminescent and the background is the same color as the exit symbol.
5. Additional descriptive text shall be permitted, provided such words are in sans serif letters and are no more than one-half as high as the word EXIT or the emergency exit symbol.

1027.1.5 (IFC [B] 1027.1.5) 1027.4 (IFC [B] 1027.4) (Supp) Uniformity. Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

1027.1.6 (IFC [B] 1027.1.6) 1027.5 (IFC [B] 1027.5) (Supp) Materials. Luminescent exit path markings shall be permitted to be made of any material, including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994, or
2. ASTM E 2072, except that the charging source shall be 1 foot candles (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 30 milicandelas per square meter at 10 minutes and 5 milicandelas per square meter after 90 minutes.

1027.1.7 (IFC [B] 1027.1.7) 1027.6 (IFC [B] 1027.6) (Supp) Illumination. Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

1027.7 (IFC [B] 1027.7) Labeled. The markings shall be labeled in at least 6 point font with the manufacturer's name and product number, the test standard utilized, and, where ASTM E 2072 is utilized, the luminance measurements at 10 and 90 minutes.

Exception: For paints and epoxies applied in the field, the labeling information shall be provided on the container.

2. Add standard to Chapter 35 (IFC Chapter 45) as follows:

NFPA

170-06 Standard for Fire Safety and Emergency Symbols

Reason: The purpose of this code change proposal is modify section 1027 to include the egress path marking components that are already required in high rise buildings in New York City.

At the Codes Forum in Orlando in 2006, the Means of Egress Committee was supportive of low-location egress path marking system for high rise buildings, but was frustrated by the number different proposals. The Committee rejected all of the proposals and suggested that the various proponents work together to resolve their differences, and to submit a more unified proposal in the future. As a result, at the Final Action hearing in Rochester, Section 1027 was added by over two-thirds majority of the membership present.

The luminous low-location egress path marking systems, required only in particular occupancies of high-rise buildings, identify the egress path elements in the event of failure of power and back-up power. Although based on the requirements already enacted in New York City, Section 1027, as adopted in Rochester, lacks some important components required in New York City and, therefore, did not result in a complete egress path marking system. Specifically, Section 1027 currently does not require the egress path marking system to include marking of obstacles, of intervening egress doors, and of access to the exit doors. This proposal will strengthen Section 1027 by adding into it these omitted features.

Organizationally, the proposal will break the egress path marking requirements into two parts. The first part will comprise Section 1027.2, and will include those markings within the exit enclosure. The second part will comprise Section 1027.3, and will include a limited amount of markings within the exit access.

This proposal will add three new components into section 1027:

1. **Obstacles within exits:** The current Section 1027 does not require the marking of obstacles, such as hose cabinets, radiators, pipes, etc. In dark conditions where only outlines of the steps, floors, and handrails are luminous, it is critical to mark the projecting obstacles to prevent accidents. Section 1027.2.5 will require markings of obstacles with luminous stripes.
2. **Intervening doors within exits:** The current Section 1027 does not require the marking of intervening doors through which an occupant who is already within the exit enclosure must thereafter pass through in order to complete the egress path. In dark conditions, it is critical to make clear to the occupant what is the next step when the stair ends abruptly at ground floor or at a transfer level. Section 1027.2.6 will require markings of such doors with luminous stripes around the door moldings, markings at the door hardware, and a low-location sign.
3. **At locations where exit signs are required:** The current section 1027 provides markings within the exit enclosure, but does not require any markings that identify the exits from the exit access side. When the power and back-up power fail, finding the exit in the dark would be difficult without low-location luminous markings. Section 1027.3 will require low-location markings at the door opening onto the exit and interior corridors at the same locations where high-location exit signs are required by Section 1011.

Additionally, the proposal will add a requirement for a minimum luminance measurement at 10 minutes for products tested under the ASTM 2072 testing standard. This was inadvertently omitted from the prior proposal. The 10-minute standard will ensure that the luminance has a sufficient luminance decay curve such that the markings will be brighter at the beginning of an evacuation.

Lastly, the proposal will require that the products be labeled by the manufacturer to increase accountability and prevent counterfeiting.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

The new additions to Section 1027 come from the standards established by New York City's RS 6-1. The RS 6-1 was developed by the New York City Department of Buildings' architects and engineers after over one year of research of all available relevant standards, including but not limited to those published by the ASTM, UL, ISO, IMO, APTA (American Public Transportation Association). In addition, the department performed outreach and consultation with the various industries, including those from overseas. The Buildings Department also inspected mock-up/test installations of luminescent markings in various permutations, with different placement and dimensional configurations, to ensure that the resulting standards were adequate and appropriate. The result of all this research was a draft standard that was published for public comment – the public hearing on the proposal drew over 80 attendees representing a wide range of egress and safety experts. As a result of the public comment, the draft standard was refined and published in final form on May 31, 2005. Since then over 1500 installations have been completed in high rise buildings pursuant to this standard. It is on the basis of this experience that this proposal is being made.

Regarding obstacles markings, the text comes from New York City's RS 6-1. The only change to New York's city language was a clarification that required standpipe instructions should not be covered by the markings.

Regarding the intervening door markings, the text also comes from New York City's RS 6-1.

Regarding the markings on the exit access side of exit doors, the text comes from New York City's RS 6-1. However, at the time of RS 6-1's enactment in 2005, the NFPA 170 had not yet been updated to include the international arrow and egress symbols. As a result, RS 6-1 referenced ISO 7010 (2003). With the recent modification to NFPA 170 (2006), this proposal will reference to NFPA instead of ISO.

Regarding the 10-minute measurement at 30 milicandelas per square meter, this is the same luminance reading as specified in New York City's RS 6-1.

Regarding the labeling requirement, this is the same as specified in New York City's RS 6-1. There is no need to specify labeling for products tested to UL 1994 since UL 1994 already has a labeling provision as a condition of the listing.

Bibliography:

1. ASTM E 2072-04, Standard Specification for Photoluminescent (Phosphorescent) Safety Marking
2. City of New York, Department of Buildings. Building Code Reference Standard RS 6-1 and 6-1A (available at http://www.nyc.gov/html/dob/downloads/pdf/rs_6-1.pdf). Promulgated May 31, 2005.
3. City of New York, Department of Buildings. Word Trade Center Building Code Task Force: Findings and Recommendations (available at <http://home2.nyc.gov/html/dob/downloads/pdf/wtcbctf.pdf>). February, 2003.
City of New York.
4. Local Law 26 of 2004, Section 15, modifying Building Code Section 27-283 (available at http://www.nyc.gov/html/dob/downloads/bldgs_code/locallaw26of04.pdf). Enacted May 24, 2004.
5. UL 1994-04, Luminous Egress Path Marking Systems, with revisions through February, 2005.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Analysis: Review of proposed new standard NFPA 170 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Disapproved

Committee Reason: The proposal would require photo luminescent markings in all corridors, not just in exits. With all obstructions being marked, the visual clutter may be a problem for occupants following the means of egress. There was no justification provided that the current requirements were not adequate. There is no testing that photoluminescent markings are going to provide additional levels of protection in general, and this proposal is just adding more. Section 1027.3.1 references only specific lines of a table in NFPA 170 – the requirements should be moved into the code. The labeling requirement in Section 1027.7 is a problem for enforcement – where and how often in a building. Low exit signage was previously disapproved in E80-07/08. The proponent developed new standards for graphics instead of following those in NFPA 170.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

James P. Colgate, RA, Esq., New York City Department of Buildings, requests Approval as Modified by this public comment.

Modify proposal as follows:

1027.2.6 ~~Intervening doors within exit enclosures and discharge doors~~ Doors from exit enclosures. Doors through which occupants within an exit enclosure must pass in order to complete the exit path shall be provided with markings complying with Sections 1027.6.1 through 1027.2.6.3.

1027.2.6.1. ~~Emergency Exit Symbol. Low-location luminous marking for doors.~~ The door shall be identified by a low-location luminous emergency exit symbol complying with NFPA 170 ~~marking complying with Section 1027.3.~~ The exit symbol shall be a minimum of 4 inches (102 mm) in height and shall be mounted on the door, centered horizontally, with the top of the symbol no higher than 18 inches (457 mm) above the finished floor.

1027.3 Markings where exit signs are provided. Where exit signs are provided in accordance with Section 1011 in interior corridors, at doors opening into exits, or within exit enclosures, approved low-location luminous egress path markings shall be provided. The top of the marking shall be not more than 18 inches (457 mm) above the finished floor. For doors, the marking shall be mounted on the door, or on the wall adjacent to latch side of the door with the nearest edge of the marking within 4 inches (100 mm) of the door frame.

1027.3.1 Graphics. The marking shall comply with the following:

1. The marking shall contain the "emergency exit" symbol complying with the 1st line of Table 4.2 of NFPA 170, except that the color of the luminous portions shall be permitted to be a light, contrasting color in lieu of white. The exit symbol shall be least 4" (102 mm) high.
2. The marking shall contain the word EXIT printed in sans serif letters at least 4" (102 mm) high with strokes no less than 1/4" (13 mm). The color of the letters shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the letters are luminous and the background is the same color as the exit symbol.
3. In the case of markings that identify doors, the marking shall not be required to contain an arrow when mounted on the door, but shall contain an arrow when mounted on a wall. Any such arrow shall be at 45 degrees and at least 2 3/4" (70 mm) high and shall comply with the 3rd, 4th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminous, or shall be a light color or white if the exit symbol is luminous and the background is the same color as the exit symbol.
4. In the case of markings that do not identify a door, the sign shall contain an arrow at least 2 3/4" (70 mm) high, complying with the 2nd, 3rd, 4th, 7th, 8th or 9th line of Table 4.2 of NFPA 170, except that the color of the arrow shall be the same as the exit symbol if the background is luminescent, or shall be a light color or white if the arrow is luminescent and the background is the same color as the exit symbol.
5. Additional descriptive text shall be permitted, provided such words are in sans serif letters and are no more than one-half as high as the word EXIT or the emergency exit symbol.

(Renumber remaining paragraphs 1027.4, 1027.5, 1027.6)

1027.7 Labeled. The markings shall be labeled in at least 6 point font with the manufacturer's name and product number, the test standard utilized, and, where ASTM E 2072 is utilized, the luminance measurements at 10 and 90 minutes.

Exception: For paints and epoxies applied in the field, the labeling information shall be provided on the container.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: In Rochester, the ICC membership voted to add low-location luminous egress path markings as a requirement in the exit enclosures of most new high-rise buildings. This improvement in fire safety followed the lead of New York City – which required such markings in all new and existing high rise office buildings back in 2004 as a result of lessons learned from 1993 and 2001 World Trade Center attacks.

However, the Rochester change did not address three fundamental aspects of the low-location luminous egress path system – namely, the marking of the door opening into the exit enclosure, the marking of the protruding obstacles within the exit enclosure, and the marking of the door discharging from the exit enclosure. In Palm Springs, I submitted a proposal that rectified all three missing components.

However, in Palm Springs, the Means of Egress Committee made clear that it was not ready to require low-location luminous egress path markings outside of the exit enclosures. It was concerned about the placement of such markings, that it was simply too much, and that it would make for much visual clutter.

The other issues raised by the Means of Egress Committee were related to the overly-complicated way in which the proposal referenced NFPA 170 (Standard for Fire Safety and Emergency Symbols), and that the labeling requirement was problematic.

This public comment squarely addresses all of these of these Committee concerns.

First, it eliminates any requirement for markings outside of the exit enclosure – if accepted by the membership, this comment will restrict the markings solely to within the exit enclosure. While the result will be less extensive than New York City's requirements, the overall system resulting from adoption of this comment will greatly improve safety.

Second, it simplifies the NFPA signage, so that the only signage requirement is a single, low-location emergency exit symbol on the inside face of the door that exits out of the exit enclosure. This exit symbol on the discharge door is an important feature because knowing which door is the one out of the exit enclosure is important to the safe evacuation when there is a loss of both primary and emergency power.

Third, it removes the labeling requirement that the committee found problematic.

The result of these changes to E 147 is that the path markings that the 2009 IBC will require in high-rise buildings will provide a complete and safe system of emergency egress.

Final Hearing Results

E147-07/08

AMPC

Code Change No: E148-07/08

Original Proposal

Sections: 1027.1.6 (IFC [B] 1027.1.6)

Proponent: Manny Muniz, Manny Muniz Associates, LLC, representing himself

1. Add new text as follows:

1027.1.6 (IFC [B] 1027.1.6) Stairway floor number signs. Stairway floor number signs required by 1020.1.6 shall also comply with Section 1027.1.8.

2. Revise text as follows:

~~1027.1.6 (IFC [B] 1027.1.6)~~ **1027.1.7 (IFC [B] 1027.1.7) (Supp) Materials.** Luminescent exit path markings shall be permitted to be made of material including paint, provided that an electrical charge is not required to maintain the required luminance. Such materials shall include, but not be limited to, self-luminous materials and photoluminescent materials. Materials shall comply with either:

1. UL 1994 or
2. ASTM E 2072, except that the charging source shall be 1 foot candle (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 5 millicandles per square meter after 90 minutes.

~~1027.1.7 (IFC [B] 1027.1.7)~~ **1027.1.8 (IFC [B] 1027.1.8) (Supp) Illumination.** Exit enclosures where photoluminescent exit path markings are installed shall be provided with the minimum means of egress illumination required by Section 1006 for at least 60 minutes prior to periods when the building is occupied.

Reason: The ICC membership agreed with the New York City Building Code by voting to require that stairs, handrails and stair landings in high rise stair enclosures be marked so they are visible during normal, emergency and total blackout lighting conditions. Stairway floor numbers signs required by Section 1020.1.6 give critical egress information which should also be visible during all three of these lighting conditions.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing Results

Analysis: The 2007 Supplement includes a new Section 1027 Exit Path Markings where this proposal language would be located. A consideration would be if this new requirement should be located in Section 1020.1.6

Committee Action:

Disapproved

Committee Reason: Section 1020.1.6 uses the term 'stairway identification' signs instead of 'stairway floor number signs' used in this proposal. The signage requirements should be in Section 1020, not in photoluminescent requirements.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Manny Muniz, Manny Muniz Associates, LLC, representing himself, requests Approval as Modified by this public comment.

Replace proposal as follows:

1020.1.6 (IFC [B] 10201.1.6) (Supp) Floor identification signs. A sign shall be provided at each floor landing in interior exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with ICC A117.1, shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

1020.1.6.1 (IFC [B] 10201.1.6.1) (Supp) Signage requirements. Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the stair enclosure shall be a minimum of 1 1/2 inches (38 mm) in height.
3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch (22 mm) in height.
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
6. When signs required by Section 1020.1.6 are installed in interior exit enclosures of buildings subject to Section 1027, the signs shall be made of the same materials as required by Section 1027.1.6.

Commenter-s Reason: The committee's reason for disapproval was not because the proposal did not have merit but because it was not located in the correct section of the code. Based on the recommendations of the committee, the proposal has now been relocated to 1020.1.6.

The ICC membership agreed with the New York City Building Code by voting to require that stairs, handrails and stair landings in high rise stair enclosures be marked so they are visible during normal, emergency and total blackout lighting conditions. Stairway floor numbers signs required by Section 1020.1.6 give critical egress information which should also be visible during all three of these lighting conditions.

Final Hearing Results

E148-07/08**AMPC**

2006 INTERNATIONAL FIRE CODE DOCUMENTATION INTERNATIONAL FUEL GAS CODE

Code Change No: **FG5-07/08**

Original Proposal

Sections: IFGC 106.4.6; IMC 106.4.6; IPC 106.5.6; IPSDC 106.3.6; IWUIC 106.8; IFC 105.4.6

Proponent: Rebecca Baker, Jefferson County, CO, Chair, ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin)

THESE PROPOSALS ARE ON THE AGENDA OF THE IFGC, IMC, IPC, IPSDC, IWUIC AND IFC CODE DEVELOPMENT COMMITTEES AS SIX SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

PART I – IFGC

Revise as follows:

106.4.6 Retention of construction documents. One set of approved construction documents shall be retained by the code official ~~until final approval of the work covered therein.~~ for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

PART II – IMC

Revise as follows:

106.4.6 Retention of construction documents. One set of approved construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws ~~until final approval of the work covered therein.~~ One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress.

PART III – IPC

Revise as follows:

106.5.6 Retention of construction documents. One set of approved construction documents shall be retained by the code official ~~until final approval of the work covered therein.~~ for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

PART IV – IPSDC

Revise as follows:

106.3.6 Retention of construction documents. One set of approved construction documents shall be retained by the code official ~~until final approval of the work covered therein.~~ for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and ~~that~~ said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

PART V – IWUIC

Revise as follows:

106.8 Retention of plans. One set of approved plans, specifications and computations shall be retained by the code official for a period of not less than ~~90~~ 180 days from date of completion of the ~~permitted work covered therein, or as required by state or local laws~~; and one set of approved plans and specifications shall be returned to the applicant, and said set shall be kept on the site of the building, use or work at all times during which the work authorized thereby is in progress.

PART VI – IFC

Revise as follows:

105.4.6 Retention of construction documents. One set of construction documents shall be retained by the code official ~~until final approval of the work covered therein. for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.~~ One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

Reason: Consistency and coordination among the I-Codes are cornerstones of the ICC Code Development Process. This holds true for not only the technical code provisions but also for the administrative code provisions as contained in Chapter 1 of all the I-Codes.

In response to concerns raised by the ICC membership since publication of the first editions of the I-Codes, the ICC Board established, for the 2006/2007 cycle, and extended, for the 2007/2008 cycle, the ICC Ad Hoc Committee on the Administrative Provisions in the I-Codes (AHC-Admin) to review Chapter 1 administrative provisions in the International Codes family and improve the correlation among the I-Codes through the code development process.

The AHC-Admin is submitting a series of code change proposals designed to provide consistent and correlated administrative provisions among the I-Codes. The intent of this correlation effort is not necessarily to have absolutely identical text in each of the I-Codes but, rather, text that has the same intent in accomplishing the administrative tasks among the I-Codes.

This proposal focuses on the retention of construction documents and is being submitted by the AHC-Admin to correlate the IFGC, IMC, IPC, IPSDC, IWUIC and IFC with current Section 106.5 of the *International Building Code* and Section R106.5 of the *International Residential Code*.

It is not unusual for state laws to establish records retention criteria and the goal of this change is to not only make the I-Code family consistent with such laws but also to provide a minimum post-construction retention period since the months immediately following construction completion is typically when most disputes arise that depend on the construction documents for resolution.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing Results

PART I – IFGC

Committee Action:

Approved as Submitted

Committee Reason: The proposed revision achieves consistency with and coordination among the codes in the ICC family. The committee agreed with the proponent's reasons. The revised text will provide a reasonable minimum post-construction plan retention period because the period immediately following construction completion is typically when most disputes arise that depend on the construction documents for resolution.

Assembly Action:

None

PART II – IMC

Committee Action:

Approved as Submitted

Committee Reason: This section needs to be consistent with similar sections in other I-codes. This proposed change establishes a minimum construction document retention period by the code official to insure that such documents are available if a dispute arises shortly after completion of construction. The change also recognizes that state or local laws may establish retention periods that would override the IMC requirements.

Assembly Action:

None

PART III – IPC

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed with the proponent's reason statement indicating that the revised text is necessary for consistency with coordinating sections already established in the IBC and IRC. As many state laws already require a post-construction document retention period, this revision aligns the IPC with such practices so that construction documents are available to help solve any disputes that might develop in the months after project completion.

Assembly Action:

None

PART IV – IPSDC**Committee Action:****Approved as Submitted**

Committee Reason: The committee agreed with the proponent's reason statement indicating that the revised text is necessary for consistency with coordinating sections already established in the IBC and IRC. As many state laws already require a post-construction document retention period, this revision aligns the IPC with such practices so that construction documents are available to help solve any disputes that might develop in the months after project completion.

Assembly Action:**None****PART V – IWUIC****Committee Action:****Approved as Submitted**

Committee Reason: The committee agreed that the proposal will correlate the IWUIC with the IBC, IRC, IFC, IFGC, IMC, and IPC and will provide a reasonable minimum post-construction plan retention period because the period immediately following construction completion is typically when most disputes arise that depend on the construction documents for resolution.

Assembly Action:**None****PART VI – IFC****Committee Action:****Approved as Submitted**

Committee Reason: The committee agreed that the proposal will correlate the IFC with the IBC, IRC, IFGC, IMC, and IPC and will provide a reasonable minimum post-construction plan retention period because the period immediately following construction completion is typically when most disputes arise that depend on the construction documents for resolution. Approval is also consistent with the committee action on Part V.

Assembly Action:**None**

Final Hearing Results

FG5-07/08, Part I	AS
FG5-07/08, Part II	AS
FG5-07/08, Part III	AS
FG5-07/08, Part IV	AS
FG5-07/08, Part V	AS
FG5-07/08, Part VI	AS

CODE CORRELATION COMMITTEE (CCC) 2006-2008

The following information provides a summary of all editorial changes to the 2006 International Fire Code, that are reflected in the 2009 International Fire Code, as approved by the ICC Code Correlation Committee.

2009 SECTION	2006 SECTION	DESCRIPTION OF REVISION	CCC REF YEAR
202	202	WILDFIRE RISK AREA. Land which is covered with grass, grain, brush or forest, whether privately or publicly owned, which is so situated or is of such inaccessible location that a fire originating upon it would present an abnormally difficult job of suppression or would result in great or unusual damage through fire; or such areas designated by the fire code official.	2008
304.3.4	304.3.4	<p>304.3.4 Capacity of 1 cubic yard or more. Dumpsters with an individual capacity of 1.0 cubic yard [200 gallons (0.76 m³)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines unless they the dumpsters are constructed of noncombustible materials or of combustible materials with a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.</p> <p style="text-align: center;">Exceptions:</p> <ol style="list-style-type: none"> 1. Dumpsters in areas protected by an approved automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3. 2. Storage in a structure shall not be prohibited where the structure is of Type I or Type IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage. 	2008
Deleted	308.3 308.4.1	<p>308.3 Open flame. A person shall not utilize or allow to be utilized, an open flame in connection with a public meeting or gathering for purposes of deliberation, worship, entertainment, amusement, instruction, education, recreation, awaiting transportation or similar purpose in Group A or E occupancies without first obtaining a permit in accordance with Section 105.6.</p> <p>308.4.1 Permit. A permit in accordance with Section 105.6 shall be secured from the fire code official prior to the utilization of a torch or flame-producing device to remove paint from a structure.</p>	2008
508	509	<p style="text-align: center;">SECTION 509 (IBC [F] 911.1) FIRE COMMAND CENTER</p> <p>509.1 Features General. Where required by other sections of this code and in all buildings classified as high-rise buildings by the <i>International Building Code</i>, a fire command center for fire department operations shall be provided and shall comply with Sections 509.1.1 through 509.1.5.</p> <p>509.1.1 Location and access. The location and accessibility of the fire command center shall be approved by the fire chief department.</p> <p>509.1.2 Separation. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the <i>International Building Code</i> or horizontal assembly constructed in accordance with Section 711 of the <i>International Building Code</i>, or both.</p> <p>509.1.3 Size. The room fire command center shall be a minimum of 96 square feet (9 m²) <u>in area</u> with a minimum dimension of 8 feet (2438 mm).</p> <p>509.1.4 Layout approval. A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation.</p> <p>509.1.5 Required features. [Supp] The fire command center shall comply with NFPA 72 and shall contain the following features:</p> <ol style="list-style-type: none"> 1. The emergency voice/alarm communication system <u>control</u> unit. 2. The fire department communications system. 3. Fire-detection and alarm system annunciator <u>system</u>. 4. Annunciator visually indicating the location of the elevators and whether they are operational. 	2007

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

2009 SECTION	2006 SECTION	DESCRIPTION OF REVISION	CCC REF YEAR
		<ol style="list-style-type: none"> 5. Status indicators and controls for air handling <u>distribution</u> systems. 6. The fire-fighter-s control panel required by Section 909.16 for smoke control systems installed in the building. 7. Controls for unlocking stairway doors simultaneously. 8. Sprinkler valve and water-flow detector display panels. 9. Emergency and standby power status indicators. 10. A telephone for fire department use with controlled access to the public telephone system. 11. Fire pump status indicators. 12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access. 13. Work table. 14. Generator supervision devices, manual start and transfer features. 15. Public address system, where specifically required by other sections of this code. 16. (Supp) Elevator fire recall switch in accordance with ASME A17.1. 17. (Supp) Elevator emergency or standby power selector switch(es), where emergency or standby power is provided. 	
<p>603.4.2 through 603.4.2.3.4 (New)</p>		<p>603.4.2 Portable outdoor gas-fired heating appliances. Portable <u>outdoor</u> gas-fired heating appliances located outdoors shall be in accordance with Sections 603.4.2.1 through 603.4.2.3.3 <u>603.4.2.3.4</u>.</p> <p>603.4.2.1 Location. Portable outdoor gas-fired heating appliances shall be located in accordance with Sections 603.4.2.1.1 through 603.4.2.1.4.</p> <p>603.4.2.1.1 Prohibited locations. The storage or use of portable outdoor gas-fired heating appliances is prohibited where <u>in</u> any of the following <u>locations</u> exist:</p> <ol style="list-style-type: none"> 1. Inside any occupancy when connected to the fuel gas container. 2. Inside tents, canopies and membrane structures. 3. On exterior balconies <u>except</u> in accordance with <u>Section 6.17</u> of NFPA 58. <p>Exception: Exterior balconies as provided in Section 6.17 of NFPA 58.</p> <p>603.4.2.1.2 Clearance to buildings. Portable outdoor gas-fired heating appliances shall be located at least 5 feet from buildings.</p> <p>603.4.2.1.3 Clearance to combustible materials. Portable outdoor gas-fired heating appliances shall not be located beneath, or closer than 5 feet to <u>combustible decorations and combustible overhangs, awnings, sunshades or similar combustible attachments to buildings</u> and combustible decorations.</p> <p>603.4.2.1.4 Proximity to exits. Portable outdoor gas-fired heating appliances shall not be located within 5 feet of exits or exit discharges.</p> <p>603.4.2.2 Portable outdoor gas-fired heating appliance installation and operation. Portable outdoor gas-fired heating appliances shall be installed and operated in accordance with Sections 603.4.2.2.1 through 603.4.2.2.4.</p> <p>603.4.2.2.1 Listing and approval. Only listed and approved <u>portable outdoor gas-fired</u> heating appliances utilizing a fuel gas container that is integral to the appliance shall be used.</p> <p>603.4.2.2.2 Installation and maintenance. <u>Portable outdoor gas-fired</u> H heating appliances shall be installed and maintained in accordance with the manufacturer=s instructions.</p> <p>603.4.2.2.3 Tip-over switch. Portable <u>outdoor</u> gas-fired heating appliances shall be equipped with a tilt or tip-over switch that automatically shuts off the flow of gas if the appliance is tilted more than 15 degrees from vertical.</p> <p>603.4.2.2.4 Guard against contact. The heating element or combustion chamber of <u>portable outdoor gas-fired heating appliances</u> shall be permanently guarded so as to prevent accidental contact by persons or material.</p> <p>603.4.2.3 Gas containers. Fuel gas containers for portable outdoor gas-fired heating appliances shall comply with Sections 603.4.2.3.1 through 603.4.2.3.4.</p> <p>603.4.2.3.1 Approved containers. Only approved U.S. DOTn or ASME gas containers shall be used.</p> <p>603.4.2.3.2 Container replacement. Replacement of <u>fuel</u> gas containers in <u>portable outdoor gas-fired heating appliances</u> the heating appliance shall not be conducted while the public is present.</p>	<p>2008</p>

2009 SECTION	2006 SECTION	DESCRIPTION OF REVISION	CCC REF YEAR
		<p>603.4.2.3.3 Container capacity. The maximum individual capacity of gas containers used in connection with portable <u>outdoor</u> gas-fired heating appliances shall not exceed 20 pounds.</p> <p>603.4.2.3.4 Indoor storage prohibited. Gas containers shall not be stored inside <u>of buildings except in accordance with Section 3809.9 as required by the <i>International Fuel Gas Code</i>.</u></p>	
804.1	804.1	<p style="text-align: center;">SECTION 804 INTERIOR WALL AND CEILING TRIM IN NEW AND EXISTING BUILDINGS</p> <p>804.1 Interior trim. Material, other than foam plastic, used as interior trim <u>in new and existing buildings</u> shall have a minimum Class C flame spread index and smoke-developed index, when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling areas to which it is attached.</p>	2008
804.2.4	804.2.4	<p>804.2.4 [Supp] Flame spread. The flame spread index shall not exceed 75 where tested in accordance with ASTM E 84 or UL 723. The smoke-developed index shall not be limited.</p> <p>Exception: When the interior trim material has been tested as an interior finish in accordance with NFPA 286 and complies with the acceptance criteria in 803.1.2.1, it shall not be required to be tested for flame spread index in accordance with ASTM E 84 <u>or UL 723</u>.</p>	2007
903.2	903.2	<p>903.2 (Supp) Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.</p> <p>Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic fire alarm <u>detection system in accordance with Section 907.2</u> and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 706 of the <i>International Building Code</i> or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the <i>International Building Code</i>, or both.</p>	2007
Deleted	903.2.12	<p>903.2.12 Other hazards. Automatic sprinkler protection shall be provided for the hazards indicated in Sections 903.2.12.1 and 903.2.12.2</p>	2007
903.2.11.6	903.2.13	<p>903.2.16 903.2.13 Other required suppression systems. In addition to the requirements of Section 903.2, the provisions indicated in Table 903.2.15 <u>903.2.13</u> also require the installation of a suppression system for certain buildings and areas.</p>	
906.3 through 906.3.4 (New)		<p>906.3 Size and distribution. <u>The size and distribution of portable fire extinguishers shall be in accordance with Sections 906.3.1 through 906.3.3.</u></p> <p>906.3.1 Class A fire hazards. <u>Portable fire extinguishers</u> for occupancies that involve primarily Class A fire hazards, the minimum sizes and distribution shall comply with Table 906.3(1).</p> <p>906.3.2 Class B fire hazards. <u>Portable fire extinguishers</u> for occupancies involving flammable or combustible liquids with depths of less than or equal to 0.25-inch (6.35 mm) shall be selected and placed in accordance with Table 906.3(2). <u>Portable fire extinguishers</u> for occupancies involving flammable or combustible liquids with a depth of greater than 0.25-inch (6.35 mm) or involving combustible metals shall be selected and placed in accordance with NFPA 10.</p> <p>906.3.3 Class C fire hazards. <u>Portable fire Extinguishers</u> for Class C fire hazards shall be selected and placed on the basis of the anticipated Class A or Class B hazard.</p> <p>906.3.4 Class D fire hazards. <u>Portable fire extinguishers for occupancies involving combustible metals</u> shall be selected and placed in accordance with NFPA 10.</p>	2007
906.9 through 906.9.3 (New)		<p>906.9 Height above floor. Extinguisher installation. <u>The installation of portable fire extinguishers shall be in accordance with Sections 906.9.1 through 906.9.3.</u></p> <p>906.9.1 Extinguishers weighing 40 pounds or less. Portable fire extinguishers having a gross weight not exceeding 40 pounds (18 kg) shall be installed so that is <u>their tops is</u> are not more than 5 feet (1524 mm) above the floor.</p>	2007

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE

2009 SECTION	2006 SECTION	DESCRIPTION OF REVISION	CCC REF YEAR																				
		<p>906.9.2 Extinguishers weighing more than 40 pounds. Hand-held portable fire extinguishers having a gross weight exceeding 40 pounds (18 kg) shall be installed so that its <u>their tops</u> is <u>are</u> not more than 3.5 feet (1067 mm) above the floor.</p> <p>906.9.3 Floor clearance. The clearance between the floor and the bottom of installed hand-held <u>portable fire</u> extinguishers shall not be less than 4 inches (102 mm).</p>																					
907.2.3	907.2.3	<p>907.2.3 Group E. A manual fire alarm system shall be installed in Group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Group E occupancies with an occupant load of less than 50. 2. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply: <ol style="list-style-type: none"> 2.1. Interior corridors are protected by smoke detectors <u>equipped with an alarm verification feature</u>... 	2008																				
907.2.12.2	907.2.11.2	<p>907.2.11.2 System response. The activation of two or more smoke detectors, a single smoke detector <u>equipped with an alarm verification feature</u>, the automatic sprinkler system or other approved fire detection device shall automatically:....</p>																					
907.2.13	907.2.12	<p>907.2.12 (Supp) High-rise buildings. Buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system <u>in accordance with Section 907.2.12.1, a fire department communication system in accordance with Section 907.2.12.2</u> and an emergency voice/alarm communication system in accordance with Section 907.6.2.2.</p> <p>Exceptions: (No change to current text)</p>	2007																				
4604.5	1027.5.1	<p>1027.5.1 Emergency power duration and installation. The emergency power system shall provide power for not less than 60 minutes and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.</p>	2007																				
Table 4604.18.2	Table 1027.17.2	<p style="text-align: center;">TABLE 1027.17.2 COMMON PATH, DEAD-END AND TRAVEL DISTANCE LIMITS (BY OCCUPANCY)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Occupancy</th> <th colspan="2">Common Path Limit</th> <th colspan="2">Dead-End Limit</th> <th colspan="2">Travel Distance Limit</th> </tr> <tr> <th>Unsprinklered (feet)</th> <th>Sprinklered (feet)</th> <th>Unsprinklered (feet)</th> <th>Sprinklered (feet)</th> <th>Unsprinklered (feet)</th> <th>Sprinklered (feet)</th> </tr> </thead> <tbody> <tr> <td>Group I-2 (Health Care)</td> <td>NR^e</td> <td>NR^e</td> <td>NR</td> <td>NR</td> <td>150</td> <td>200^c</td> </tr> </tbody> </table> <p>a. through d. (No change to current text). e. Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m²) shall have at least two exit access doors separated by <u>placed a distance apart equal to not less than one-third of the length of the maximum overall diagonal dimension of the patient sleeping room or suite to be served, measured in a straight line between exit access doors.</u></p>	Occupancy	Common Path Limit		Dead-End Limit		Travel Distance Limit		Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)	Group I-2 (Health Care)	NR ^e	NR ^e	NR	NR	150	200 ^c	2008
Occupancy	Common Path Limit			Dead-End Limit		Travel Distance Limit																	
	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)																	
Group I-2 (Health Care)	NR ^e	NR ^e	NR	NR	150	200 ^c																	
1207.1	1207.1	<p>1207.1 General equipment requirements. Dry cleaning systems, including dry cleaning units, washing machines, stills, drying cabinets, tumblers, and their appurtenances, including pumps, piping, valves, filters and solvent coolers, shall be installed and maintained in accordance with NFPA 32. The construction of buildings in which such systems are located shall comply with the requirements of this section and the International Building Code. B-C portable fire extinguishers shall be provided near the doors inside dry cleaning rooms containing Type II, Type III-A and Type III-B dry cleaning systems.</p>	2007																				
1504.7	1504.7	<p>1504.7 Ventilation. Mechanical ventilation of flammable vapor areas shall be provided in accordance with Section 640 <u>502.7</u> of the <i>International Mechanical Code</i>.</p>	2007																				
1803.14.1	1803.14.1	<p>1803.14.1 Where required. Exhaust ventilation systems shall be provided in the following locations in accordance with the requirements of this section and the <i>International Building Code</i>:</p>	2007																				

2009 SECTION	2006 SECTION	DESCRIPTION OF REVISION	CCC REF YEAR
		<p>1. through 4. (No change to current text)</p> <p>5. Gas cabinets: Exhaust ventilation for gas cabinets shall comply with Section 2703.8.6.2. The gas cabinet ventilation system is allowed to connect to a workstation ventilation system. Exhaust ventilation for gas cabinets containing highly toxic or toxic gases shall also comply with Chapter 37.</p> <p>6. Exhausted enclosures: Exhaust ventilation for exhausted enclosures shall comply with Section 2703.8.5.2. Exhaust ventilation for exhausted enclosures containing highly toxic or toxic gases shall also comply with Chapter 37.</p> <p>7. Gas rooms: Exhaust ventilation for gas rooms shall comply with Section 2703.8.4.2. Exhaust ventilation for gas cabinets <u>rooms</u> containing highly toxic or toxic gases shall also comply with Chapter 37.</p> <p>8. (No change to current text)</p>	
1904	1904	<p style="text-align: center;">SECTION 1904 FIRE PROTECTION</p> <p>1904.1 General. Fire protection in timber and lumber production mills and plywood and veneer mills shall comply with Sections 1904.2 through 1904.4.</p> <p>1904.2 1904.1 Fire alarms. An approved means for transmitting alarms to the fire department shall be provided in timber and lumber production mills and plywood and veneer mills.</p> <p>1904.2.1 1904.1.1 Manual fire alarms. A manual fire alarm system complying with Section 907.2 shall be installed in areas of timber and lumber production mills and for plywood and veneer mills that contain product dryers.</p> <p style="padding-left: 40px;">Exception: Where dryers or other sources of ignition are protected by a supervised automatic sprinkler system complying with Section 903.</p> <p>1904.3 1904.2 Portable fire extinguishers and or hose. Portable fire extinguishers or standpipes and hose supplied from an approved water system shall be provided within 50 feet (15 240 mm) of travel distance to any machine producing shavings or sawdust. <u>Portable fire</u> extinguishers shall be provided in accordance with Section 906 for extra-high hazards.</p> <p>1904.4 1904.3 Automatic sprinkler systems. Automatic sprinkler systems shall be installed in accordance with Section 903.3.1.1.</p>	2007
2420	2420	<p>2404.20 Standby personnel. When, in the opinion of the fire code official, it is essential for public safety in a tent, canopy or membrane structure used as a place of assembly or any other use where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest or activity, the owner, agent or lessee shall employ one or more qualified persons, as required and approved, to remain on duty during the times such places are open to the public, or when such activity is being conducted.</p> <p>2404.20.1 Duties. Before each performance or the start of such activity, standby personnel shall keep diligent watch for fires during the time such place is open to the public or such activity is being conducted and take prompt measures for extinguishment of fires that occur and assist in the evacuation of the public from the structure.</p> <p>2404.20.2 Crowd managers. There shall be trained crowd managers or crowd manager supervisors at a ratio of one crowd manager/supervisor for every 250 occupants, as approved.</p>	2008
Table 2703.1.1(1)	Table 2703.1.1(1)	<p style="text-align: center;">IFC TABLE 2703.1.1(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD^{a, j m, n, p}</p> <p>e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets, <u>or</u> exhausted enclosures, or <u>in</u> listed safety cans <u>in accordance with Section 2703.9.10</u>. Where Note d also applies, the increase for both notes shall be applied accumulatively.</p> <p>(Portions of table and footnotes not shown remain unchanged)</p>	2008
2703.9.10 (New)		<p>2703.9.10 (Supp) Safety cans. Safety cans shall be listed in accordance with UL 30 when used to increase the maximum allowable quantities of flammable or combustible liquids in accordance with Table 2703.1.1(1) <u>or</u> Table 2703.1.1(3). Safety cans listed in accordance with UL 1313 are allowed for flammable and combustible liquids when not used to increase the maximum allowable quantities and for other hazardous material liquids in accordance with the listing.</p>	2008

CODE CORRELATION COMMITTEE ACTIONS – International Code Council Electrical Code – Administrative Provisions

The International Code Council no longer produces an *International Code Council Electrical Code – Administrative Provisions*. As a result, in July of 2008 the Code Correlation Committee (CCC) took the following action, in all ICC codes, on sections that referenced that code:

INTERNATIONAL BUILDING CODE																																
DELETED SECTIONS	SECTIONS REPLACING “ICC ELECTRICAL CODE” WITH “NFPA 70” OR “THIS CODE” OR DELETING “ICC ELECTRICAL CODE”	SECTIONS REVISED																														
101.4.1	<table border="0"> <tr> <td style="text-align: right;"><u>2006 Section</u></td> <td style="text-align: right;"><u>2009 Section</u></td> </tr> <tr> <td>107.3</td> <td>108.3</td> </tr> <tr> <td>[F] 415.8.2.8.1</td> <td>Same</td> </tr> <tr> <td>603.1.3</td> <td>Same</td> </tr> <tr> <td>904.3.1</td> <td>Same</td> </tr> <tr> <td>[F] 907.7.1</td> <td>[F] 907.6.1</td> </tr> <tr> <td>[F] 909.11</td> <td>Same</td> </tr> <tr> <td>[F] 909.12.1</td> <td>Same</td> </tr> <tr> <td>[F] 909.16.3</td> <td>Same</td> </tr> <tr> <td>1205.4.1</td> <td>Same</td> </tr> <tr> <td>1405.10.4</td> <td>1405.11.4</td> </tr> <tr> <td>A101.2</td> <td>Same</td> </tr> <tr> <td>G901.6</td> <td>Same</td> </tr> <tr> <td>H106.1</td> <td>Same</td> </tr> <tr> <td>H106.2</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	107.3	108.3	[F] 415.8.2.8.1	Same	603.1.3	Same	904.3.1	Same	[F] 907.7.1	[F] 907.6.1	[F] 909.11	Same	[F] 909.12.1	Same	[F] 909.16.3	Same	1205.4.1	Same	1405.10.4	1405.11.4	A101.2	Same	G901.6	Same	H106.1	Same	H106.2	Same	<p>(SUPP) [F] 414.5.4 Standby or emergency power. Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with <u>Chapter 27 of this code and the International Code Council Electrical Code Administrative Provisions and Section 604 of the International Fire Code.</u></p> <p>2701.1 Scope. This chapter governs the electrical components, equipment and systems used in buildings and structures covered by this code. Electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of the ICC Electrical Code <u>this code, the International Fire Code, and NFPA 70.</u></p> <p>3401.3 Compliance with other codes. Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy in the <i>International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code, and International Residential Code and NFPA 70, and ICC Electrical Code.</i></p>
<u>2006 Section</u>	<u>2009 Section</u>																															
107.3	108.3																															
[F] 415.8.2.8.1	Same																															
603.1.3	Same																															
904.3.1	Same																															
[F] 907.7.1	[F] 907.6.1																															
[F] 909.11	Same																															
[F] 909.12.1	Same																															
[F] 909.16.3	Same																															
1205.4.1	Same																															
1405.10.4	1405.11.4																															
A101.2	Same																															
G901.6	Same																															
H106.1	Same																															
H106.2	Same																															
INTERNATIONAL ENERGY CONSERVATION CODE																																
	<table border="0"> <tr> <td style="text-align: right;"><u>2006 Section</u></td> <td style="text-align: right;"><u>2009 Section</u></td> </tr> <tr> <td>201.3</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	201.3	Same																											
<u>2006 Section</u>	<u>2009 Section</u>																															
201.3	Same																															
INTERNATIONAL EXISTING BUILDING CODE																																
	<table border="0"> <tr> <td style="text-align: right;"><u>2006 Section</u></td> <td style="text-align: right;"><u>2009 Section</u></td> </tr> <tr> <td>107.3</td> <td>Same</td> </tr> <tr> <td>602.3</td> <td>602.4</td> </tr> <tr> <td>708.1</td> <td>Same</td> </tr> <tr> <td>708.3.4</td> <td>Same</td> </tr> <tr> <td>708.3.7</td> <td>Same</td> </tr> <tr> <td>908.1</td> <td>Same</td> </tr> <tr> <td>908.3</td> <td>Same</td> </tr> <tr> <td>908.4</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	107.3	Same	602.3	602.4	708.1	Same	708.3.4	Same	708.3.7	Same	908.1	Same	908.3	Same	908.4	Same	<p>(Deleted in 2009) ICC-EC 302.6 Electrical. Additions, alterations, renovations or repairs to electrical installations shall conform to the ICC Electrical Code the International Building Code, the International Fire Code and NFPA 70 without requiring the existing installation to comply with all of the requirements of this code. Additions, alterations or repairs shall not cause an existing installation to become unsafe, hazardous or overloaded. (Remainder unchanged)</p> <p>(2009 Section 307.6) ICC-EC 305.6 Electrical. It shall be unlawful to make a change in the occupancy of a structure that will subject the structure to the special provisions of the ICC Electrical Code <u>International Building Code related to electrical installation</u> applicable to the new occupancy without approval. The code official shall certify that the structure meets the intent of the provisions of law governing building construction for the proposed new occupancy and that such change of occupancy does not result in any hazard to the public health, safety or welfare.</p> <p>(Same in 2009) 908.2 Unsafe conditions. Where the occupancy of an existing building or part of an existing building is changed, all unsafe conditions shall be corrected without requiring that all parts of the electrical system be brought up to the current edition of <u>comply with the ICC Electrical Code NFPA 70.</u></p>												
<u>2006 Section</u>	<u>2009 Section</u>																															
107.3	Same																															
602.3	602.4																															
708.1	Same																															
708.3.4	Same																															
708.3.7	Same																															
908.1	Same																															
908.3	Same																															
908.4	Same																															

INTERNATIONAL FIRE CODE																																																																																																																										
DELETED SECTIONS	SECTIONS REPLACING "ICC ELECTRICAL CODE" WITH "NFPA 70" OR "THIS CODE" OR DELETING "ICC ELECTRICAL CODE"	SECTIONS REVISED																																																																																																																								
	<table border="0"> <tr> <td style="vertical-align: top;"><u>2006 Section</u></td> <td style="vertical-align: top;"><u>2009 Section</u></td> </tr> <tr><td>603.1.3</td><td>Same</td></tr> <tr><td>603.1.7</td><td>Same</td></tr> <tr><td>603.5.2</td><td>Same</td></tr> <tr><td>604.2.16.1</td><td>604.2.15.1</td></tr> <tr><td>604.2.16.2</td><td>604.2.15.2</td></tr> <tr><td>605.3</td><td>Same</td></tr> <tr><td>605.4</td><td>Same</td></tr> <tr><td>605.9</td><td>Same</td></tr> <tr><td>606.16</td><td>Same</td></tr> <tr><td>904.3.1</td><td>Same</td></tr> <tr><td>907.6</td><td>907.7.1</td></tr> <tr><td>909.12.1</td><td>Same</td></tr> <tr><td>909.16.3</td><td>Same</td></tr> <tr><td>1106.3.4</td><td>Same</td></tr> <tr><td>1204.2.3</td><td>Same</td></tr> <tr><td>Table 1304.1</td><td>Same</td></tr> <tr><td>1404.7</td><td>Same</td></tr> <tr><td>1503.2.1</td><td>Same</td></tr> <tr><td>1503.2.1.1</td><td>Same</td></tr> <tr><td>1503.2.1.4</td><td>Same</td></tr> <tr><td>1503.2.5</td><td>Same</td></tr> <tr><td>1504.6.1.2.2</td><td>Same</td></tr> <tr><td>1504.9.4</td><td>Same</td></tr> <tr><td>1604.5</td><td>Same</td></tr> <tr><td>1703.2.1</td><td>Same</td></tr> <tr><td>1803.7.1</td><td>Same</td></tr> <tr><td>1803.7.2</td><td>Same</td></tr> <tr><td>1803.7.3</td><td>Same</td></tr> <tr><td>1903.4</td><td>Same</td></tr> <tr><td>2004.1</td><td>Same</td></tr> <tr><td>2201.5</td><td>Same</td></tr> <tr><td>2205.4</td><td>Same</td></tr> <tr><td>2208.8.1.2.4</td><td>Same</td></tr> <tr><td>2209.2.3</td><td>Same</td></tr> <tr><td>2211.3.1</td><td>Same</td></tr> <tr><td>2211.8.1.2.4</td><td>Same</td></tr> <tr><td>2404.15.7</td><td>Same</td></tr> <tr><td>2606.4</td><td>Same</td></tr> <tr><td>2703.7.3</td><td>Same</td></tr> <tr><td>2703.8.7.1</td><td>Same</td></tr> <tr><td>2703.9.4</td><td>Same</td></tr> <tr><td>----</td><td>2704.7 (Supp)</td></tr> <tr><td>2705.1.5</td><td>Same</td></tr> <tr><td>3003.7.6</td><td>Same</td></tr> <tr><td>3003.8</td><td>Same</td></tr> <tr><td>3003.16.11</td><td>Same</td></tr> <tr><td>3003.16.14</td><td>Same</td></tr> <tr><td>3203.7</td><td>3203.6</td></tr> <tr><td>3203.7.2</td><td>3203.6.2</td></tr> <tr><td>3403.1</td><td>Same</td></tr> <tr><td>Table 3403.1.1</td><td>Same</td></tr> <tr><td>3403.1.3</td><td>Same</td></tr> <tr><td>3404.2.8.12</td><td>Same</td></tr> <tr><td>3404.2.8.17</td><td>Same</td></tr> <tr><td>3406.2.8</td><td>Same</td></tr> <tr><td>3503.1.5.1</td><td>Same</td></tr> <tr><td>3606.5.5</td><td>Same</td></tr> <tr><td>3606.5.6</td><td>Same</td></tr> <tr><td>3704.2.2.8</td><td>Same</td></tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	603.1.3	Same	603.1.7	Same	603.5.2	Same	604.2.16.1	604.2.15.1	604.2.16.2	604.2.15.2	605.3	Same	605.4	Same	605.9	Same	606.16	Same	904.3.1	Same	907.6	907.7.1	909.12.1	Same	909.16.3	Same	1106.3.4	Same	1204.2.3	Same	Table 1304.1	Same	1404.7	Same	1503.2.1	Same	1503.2.1.1	Same	1503.2.1.4	Same	1503.2.5	Same	1504.6.1.2.2	Same	1504.9.4	Same	1604.5	Same	1703.2.1	Same	1803.7.1	Same	1803.7.2	Same	1803.7.3	Same	1903.4	Same	2004.1	Same	2201.5	Same	2205.4	Same	2208.8.1.2.4	Same	2209.2.3	Same	2211.3.1	Same	2211.8.1.2.4	Same	2404.15.7	Same	2606.4	Same	2703.7.3	Same	2703.8.7.1	Same	2703.9.4	Same	----	2704.7 (Supp)	2705.1.5	Same	3003.7.6	Same	3003.8	Same	3003.16.11	Same	3003.16.14	Same	3203.7	3203.6	3203.7.2	3203.6.2	3403.1	Same	Table 3403.1.1	Same	3403.1.3	Same	3404.2.8.12	Same	3404.2.8.17	Same	3406.2.8	Same	3503.1.5.1	Same	3606.5.5	Same	3606.5.6	Same	3704.2.2.8	Same	<p>(Same section in 2009) 605.1 Abatement of electrical hazards. Identified electrical hazards shall be abated. Identified hazardous electrical conditions in permanent wiring shall be brought to the attention of the <u>responsible</u> code official responsible for enforcement of the ICC <i>Electrical Code</i> NFPA 70. Electrical wiring, devices, appliances and other equipment that is modified or damaged and constitutes an electrical shock or fire hazard shall not be used.</p> <p>(SUPP) 909.11 Power systems. The smoke control system shall be supplied with two sources of power. Primary power shall be the normal building power systems. Secondary power shall be from an approved standby source complying with Chapter 27 of the <i>International Building Code</i> the International Code Council <i>Electrical Code</i> Administrative Provisions. The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gear and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour fire barriers constructed in accordance with Section 706 of the <i>International Building Code</i> or horizontal assemblies constructed in accordance with Section 711 of the <i>International Building Code</i>, or both. Power distribution from the two sources shall be by independent routes. Transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power. The systems shall comply with this code or the International Code Council <i>Electrical Code</i> Administrative Provisions.</p> <p>(SUPP) 2403.12.6.1 Exit sign illumination. (No change)</p> <ol style="list-style-type: none"> 1. (No change) 2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided when the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-site generator set, and the system shall be installed in accordance with the International Code Council <i>Electrical Code</i> Administrative Provisions Section 604 and NFPA 70. The emergency system provided shall have a minimum duration of 90 minutes when operated at full design demand. <p>(Same section in 2009) 3503.1.5 Electrical. Electrical wiring and equipment shall be installed and maintained in accordance with <u>Section 605 and the ICC <i>Electrical Code</i> NFPA 70.</u></p>
<u>2006 Section</u>	<u>2009 Section</u>																																																																																																																									
603.1.3	Same																																																																																																																									
603.1.7	Same																																																																																																																									
603.5.2	Same																																																																																																																									
604.2.16.1	604.2.15.1																																																																																																																									
604.2.16.2	604.2.15.2																																																																																																																									
605.3	Same																																																																																																																									
605.4	Same																																																																																																																									
605.9	Same																																																																																																																									
606.16	Same																																																																																																																									
904.3.1	Same																																																																																																																									
907.6	907.7.1																																																																																																																									
909.12.1	Same																																																																																																																									
909.16.3	Same																																																																																																																									
1106.3.4	Same																																																																																																																									
1204.2.3	Same																																																																																																																									
Table 1304.1	Same																																																																																																																									
1404.7	Same																																																																																																																									
1503.2.1	Same																																																																																																																									
1503.2.1.1	Same																																																																																																																									
1503.2.1.4	Same																																																																																																																									
1503.2.5	Same																																																																																																																									
1504.6.1.2.2	Same																																																																																																																									
1504.9.4	Same																																																																																																																									
1604.5	Same																																																																																																																									
1703.2.1	Same																																																																																																																									
1803.7.1	Same																																																																																																																									
1803.7.2	Same																																																																																																																									
1803.7.3	Same																																																																																																																									
1903.4	Same																																																																																																																									
2004.1	Same																																																																																																																									
2201.5	Same																																																																																																																									
2205.4	Same																																																																																																																									
2208.8.1.2.4	Same																																																																																																																									
2209.2.3	Same																																																																																																																									
2211.3.1	Same																																																																																																																									
2211.8.1.2.4	Same																																																																																																																									
2404.15.7	Same																																																																																																																									
2606.4	Same																																																																																																																									
2703.7.3	Same																																																																																																																									
2703.8.7.1	Same																																																																																																																									
2703.9.4	Same																																																																																																																									
----	2704.7 (Supp)																																																																																																																									
2705.1.5	Same																																																																																																																									
3003.7.6	Same																																																																																																																									
3003.8	Same																																																																																																																									
3003.16.11	Same																																																																																																																									
3003.16.14	Same																																																																																																																									
3203.7	3203.6																																																																																																																									
3203.7.2	3203.6.2																																																																																																																									
3403.1	Same																																																																																																																									
Table 3403.1.1	Same																																																																																																																									
3403.1.3	Same																																																																																																																									
3404.2.8.12	Same																																																																																																																									
3404.2.8.17	Same																																																																																																																									
3406.2.8	Same																																																																																																																									
3503.1.5.1	Same																																																																																																																									
3606.5.5	Same																																																																																																																									
3606.5.6	Same																																																																																																																									
3704.2.2.8	Same																																																																																																																									

INTERNATIONAL FUEL GAS CODE																								
DELETED SECTIONS	SECTIONS REPLACING “ICC ELECTRICAL CODE” WITH “NFPA 70” OR “THIS CODE” OR DELETING “ICC ELECTRICAL CODE”	SECTIONS REVISED																						
	<table border="0"> <tr> <td style="vertical-align: top;"><u>2006 Section</u></td> <td style="vertical-align: top;"><u>2009 Section</u></td> </tr> <tr> <td>201.3</td> <td>Same</td> </tr> <tr> <td>[M] 306.3.1</td> <td>Same</td> </tr> <tr> <td>[M] 306.4.1</td> <td>Same</td> </tr> <tr> <td>[M] 306.5.2</td> <td>Same</td> </tr> <tr> <td>309.2</td> <td>Same</td> </tr> <tr> <td>[F] 413.9.2.4</td> <td>Same</td> </tr> <tr> <td>[F] 703.6</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	201.3	Same	[M] 306.3.1	Same	[M] 306.4.1	Same	[M] 306.5.2	Same	309.2	Same	[F] 413.9.2.4	Same	[F] 703.6	Same							
<u>2006 Section</u>	<u>2009 Section</u>																							
201.3	Same																							
[M] 306.3.1	Same																							
[M] 306.4.1	Same																							
[M] 306.5.2	Same																							
309.2	Same																							
[F] 413.9.2.4	Same																							
[F] 703.6	Same																							
INTERNATIONAL MECHANICAL CODE																								
	<table border="0"> <tr> <td style="vertical-align: top;"><u>2006 Section</u></td> <td style="vertical-align: top;"><u>2009 Section</u></td> </tr> <tr> <td>201.3</td> <td>Same</td> </tr> <tr> <td>301.7</td> <td>Same</td> </tr> <tr> <td>306.3.1</td> <td>Same</td> </tr> <tr> <td>306.4.1</td> <td>Same</td> </tr> <tr> <td>306.5.2</td> <td>Same</td> </tr> <tr> <td>511.1.1</td> <td>Same</td> </tr> <tr> <td>[F] 513.12.1</td> <td>Same</td> </tr> <tr> <td>602.2.1.1</td> <td>Same</td> </tr> <tr> <td>1106.3</td> <td>Same</td> </tr> <tr> <td>1106.4</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	201.3	Same	301.7	Same	306.3.1	Same	306.4.1	Same	306.5.2	Same	511.1.1	Same	[F] 513.12.1	Same	602.2.1.1	Same	1106.3	Same	1106.4	Same	<p>(Same section in 2009) (SUPP) [F] 513.11 Power systems. The smoke control system shall be supplied with two sources of power. Primary power shall be the normal building power systems. Secondary power shall be from an approved standby source complying with the International Code Council Electrical Code Administrative Provisions Chapter 27 of the <i>International Building Code</i>. The standby power source and its transfer switches shall be in a room separate from the normal power transformers and switch gear and ventilated directly to and from the exterior. The room shall be enclosed with not less than 1-hour fire-resistance-rated fire barriers constructed in accordance with Section 706 of the <i>International Building Code</i> or horizontal assemblies constructed in accordance with Section 711 of the <i>International Building Code</i>, or both. Power distribution from the two sources shall be by independent routes. Transfer to full standby power shall be automatic and within 60seconds of failure of the primary power. The systems shall comply with the International Code Council Electrical Code Administrative Provisions.</p>
<u>2006 Section</u>	<u>2009 Section</u>																							
201.3	Same																							
301.7	Same																							
306.3.1	Same																							
306.4.1	Same																							
306.5.2	Same																							
511.1.1	Same																							
[F] 513.12.1	Same																							
602.2.1.1	Same																							
1106.3	Same																							
1106.4	Same																							
INTERNATIONAL PLUMBING CODE																								
	<table border="0"> <tr> <td style="vertical-align: top;"><u>2006 Section</u></td> <td style="vertical-align: top;"><u>2009 Section</u></td> </tr> <tr> <td>201.3</td> <td>Same</td> </tr> <tr> <td>502.1</td> <td>Same</td> </tr> <tr> <td>504.3</td> <td>Same</td> </tr> <tr> <td>1113.1.3</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	201.3	Same	502.1	Same	504.3	Same	1113.1.3	Same													
<u>2006 Section</u>	<u>2009 Section</u>																							
201.3	Same																							
502.1	Same																							
504.3	Same																							
1113.1.3	Same																							
INTERNATIONAL PROPERTY MAINTENANCE CODE																								
	<table border="0"> <tr> <td style="vertical-align: top;"><u>2006 Section</u></td> <td style="vertical-align: top;"><u>2009 Section</u></td> </tr> <tr> <td>102.3</td> <td>Same</td> </tr> <tr> <td>201.3</td> <td>Same</td> </tr> <tr> <td>604.2</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	102.3	Same	201.3	Same	604.2	Same															
<u>2006 Section</u>	<u>2009 Section</u>																							
102.3	Same																							
201.3	Same																							
604.2	Same																							
INTERNATIONAL RESIDENTIAL CODE																								
	<table border="0"> <tr> <td style="vertical-align: top;"><u>2006 Section</u></td> <td style="vertical-align: top;"><u>2009 Section</u></td> </tr> <tr> <td>R107.3</td> <td>Same</td> </tr> <tr> <td>G2402.3 (201.3)</td> <td>Same</td> </tr> </table>	<u>2006 Section</u>	<u>2009 Section</u>	R107.3	Same	G2402.3 (201.3)	Same																	
<u>2006 Section</u>	<u>2009 Section</u>																							
R107.3	Same																							
G2402.3 (201.3)	Same																							

INTERNATIONAL WILDLAND-URBAN INTERFACE CODE		
DELETED SECTIONS	SECTIONS REPLACING "ICC ELECTRICAL CODE" WITH "NFPA 70" OR "THIS CODE" OR DELETING "ICC ELECTRICAL CODE"	SECTIONS REVISED
		<p>(Same section in 2009) 404.10.3 Standby power. Stationary water supply facilities within the wildland-urban interface area dependent on electrical power to meet adequate water supply demands shall provide standby power systems in accordance with the ICC <i>Electrical Code</i> Chapter 27 of the <i>International Building Code</i>, Section 604 of the <i>International Fire Code</i> and NFPA 70 to ensure that an uninterrupted water supply is maintained. The standby power source shall be capable of providing power for a minimum of two hours.</p> <p>Exceptions: (No change to exceptions)</p> <p>(Same section in 2009) A107.5 Protection of electrical power supplies. When electrical pumps are used to provide the required water supply, such pumps shall be connected to a standby power source to automatically maintain electrical power in the event of power loss. The standby power source shall be capable of providing power for a minimum of two hours in accordance with <u>Chapter 27 of the <i>International Building Code</i>, Section 604 of the <i>International Fire Code</i> and the ICC <i>Electrical Code</i> NFPA 70.</u></p> <p>Exception: (No change to exception)</p>
INTERNATIONAL ZONING CODE		
	<p><u>2006 Section</u> 1008.2.5</p>	<p><u>2009 Section</u> Same</p>

INDEX



2006/2007 DOCUMENTATION

INTERNATIONAL FIRE CODE		INTERNATIONAL FIRE CODE (continued)	
Code Change Numbers	Page #	Code Change Numbers	Page #
F1.....	3	F123, F132	87
F3.....	5	F133	88
F10.....	6	F138	89
F14.....	7	F140	90
F15, F20	9	F141	91
F23, F28	11	F142, F144	92
F29.....	12	F145	93
F30, F31	13	F147	95
F34.....	14	F151	97
F35.....	15	F152	98
F36, F38	16	F154	100
F40.....	17	F156	101
F43.....	19	F157	103
F44.....	20	F160	104
F45.....	21	F161, F162	105
F46.....	22	F164	106
F47.....	24	F165	107
F51, F52	26	F168	108
F53.....	27	F169	110
F54.....	30	F171	113
F55.....	31	F173	114
F59.....	32	F174	115
F61.....	33	F176, F179	116
F62.....	34	F180	117
F63.....	35	F181	119
F64.....	36	F187, F188	120
F65.....	37	F190	121
F66.....	38	F191	123
F67.....	39	F194	127
F68, F69	40	F198	130
F70.....	41	F200	131
F71.....	42	F201	132
F72.....	43	F203	133
F75.....	44	F204	135
F78.....	46	F205	136
F83.....	47	F206	139
F84.....	48	F207	144
F85.....	49	F208	146
F89.....	50	F210	149
F90.....	51	F211	152
F96.....	52	F212, F213	153
F99.....	53	F215	154
F102.....	54	F217	156
F104.....	56	F218	169
F105, F118	57	F223	170
F120.....	58	F224	172
F122.....	60		

INTERNATIONAL FIRE CODE (continued)

Code Change Numbers	Page #
F225.....	173
F228, F230	174
F231.....	175
F232.....	176

INTERNATIONAL BUILDING CODE – FIRE SAFETY

Code Change Numbers	Page #
FS7	179
FS11	180
FS37	187

INTERNATIONAL BUILDING CODE – GENERAL

Code Change Numbers	Page #
G8	194
G46	200
G47	201
G71	202
G81	204
G84	206
G92	208
G131	212
G221	214
G223	234

INTERNATIONAL BUILDING CODE – MEANS OF EGRESS

Code Change Numbers	Page #
E5	238
E6	239
E8	240
E11	241
E16	242
E17	243
E18	245
E21	247
E23	248
E25	250
E27	251
E28	252
E29	254
E30	255
E35	256

INTERNATIONAL BUILDING CODE – MEANS OF EGRESS (continued)

Code Change Numbers	Page #
E38	257
E40	258
E41	256
E43	260
E44, E47	262
E52	264
E63, E64	265
E65	266
E67	267
E69	268
E70	269
E74	270
E75	271
E77, E78.....	272
E82	273
E83	274
E84	275
E86	279
E88	280
E89	282
E90	284
E91, E93	285
E99	286
E100	288
E104	289
E105	290
E106	292
E107	293
E108	294
E110	295
E111	296
E113	298
E115	300
E122	301
E130	304
E134, E136.....	305
E138	308
E139	309
E140	311
E146	312
E147	313
E150	314
E152	315
E153	316
E155	318
E158	319
E160	320

2007/2008 DOCUMENTATION

INTERNATIONAL FIRE CODE		INTERNATIONAL FIRE CODE (continued)	
Code Change Numbers	Page #	Code Change Numbers	Page #
F2, F3	323	F107	388
F7.....	325	F114	389
F11, F12	326	F118	390
F13.....	327	F119	391
F14, F15	328	F120	393
F17.....	329	F121	394
F19.....	330	F125, F126	395
F20.....	331	F127	396
F23.....	332	F128	398
F24.....	333	F129	399
F26.....	335	F132	400
F27, F28	336	F133	401
F33.....	337	F135	402
F36.....	338	F136	403
F40.....	339	F138	405
F41.....	340	F140	406
F42.....	341	F144	407
F43.....	343	F147	408
F44.....	344	F154	409
F48.....	346	F156, F157	410
F51.....	347	F158, F159	412
F53.....	353	F160	414
F54.....	354	F161	415
F55, F56	355	F162	416
F58.....	356	F163	417
F59, F60	358	F164	419
F61.....	360	F165	422
F62.....	362	F166	423
F65, F67	363	F167	424
F68.....	364	F168	426
F69.....	365	F169	427
F70.....	366	F172	428
F73.....	368	F173	429
F78.....	369	F174	430
F84.....	370	F175	431
F85.....	372	F176	432
F87.....	373	F177	434
F89.....	378	F178	435
F91.....	379	F179	437
F93.....	380	F180	438
F94.....	381	F189, F193	440
F95.....	382	F194	441
F98.....	383	F195	443
F100, F103	384	F198	444
F104.....	385	F199	445
F105.....	386	F201, F202	446
F106.....	387	F203	447
		F206	448

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL FIRE CODE**INTERNATIONAL FIRE CODE (continued)**

Code Change Numbers	Page #
F209.....	450
F210.....	451
F211.....	452
F217.....	453
F219.....	454
F223, F225	456
F226.....	458
F228.....	459
F230.....	460
F233.....	461
F235.....	463
F237.....	464
F238.....	465
F240.....	466
F241.....	467
F242.....	465
F243.....	469
F244, F245	483
F246.....	485
F247.....	492
F249.....	493
F252.....	494
F254.....	495
F257.....	496
F260.....	497
F262.....	498
F265.....	500
F266.....	501
F267.....	502
F268.....	503
F270.....	504
F271.....	505
F273.....	507
F274.....	508
F275.....	509
F276.....	510
F277.....	513
F278, F279	514
F281.....	515
F282.....	518
F283.....	520
F284.....	521
F287, F289	522
F290.....	523
F291.....	526
F292.....	527
F294.....	528
F295.....	544
F303.....	546
F304.....	548

INTERNATIONAL BUILDING CODE – FIRE SAFETY

Code Change Numbers	Page #
FS20	553
FS80	556
FS165	557

INTERNATIONAL BUILDING CODE – GENERAL

Code Change Numbers	Page #
G13.....	559
G14.....	562
G16.....	565
G17.....	569
G23.....	573
G24.....	576
G25.....	577
G26.....	582
G28.....	585
G30.....	587
G36.....	589
G46.....	590
G48.....	593

**INTERNATIONAL BUILDING CODE –
MEANS OF EGRESS**

Code Change Numbers	Page #
E5	595
E7	596
E8	597
E10	600
E11	606
E12	607
E13	608
E19	609
E20	614
E29	615
E34	616
E35	618
E39	621
E41	623
E45	624
E46	625
E47	626
E48	627
E51	628
E52	630
E53	631

**INTERNATIONAL BUILDING CODE –
MEANS OF EGRESS (continued)**

Code Change Numbers	Page #
E54	632
E55	633
E57	635
E58	640
E60	646
E62	649
F64.....	650
E66	651
E67	652
E68	653
E72	654
E74	655
E76	658
E78	659
E79	661
E82	662
E85	663
E91	668
E92	669
E93	670
E95	671
E96	672
E101, E105.....	673
E110	675
E111	677
E112	678
E114	679
E121	681
E122	682
E126	683
E127	684
E129	686
E130	687
E134	690
E136	691
E138	693
E140	695
E141, E144.....	697
E145	698
E146	700
E147	703
E148	707

INTERNATIONAL FUEL GAS CODE

Code Change Numbers	Page #
FG5.....	711

