



CODE CHANGES RESOURCE COLLECTION: 2009 IMC[®]

APPROVED CODE CHANGES RESULTING IN THE 2009 IMC[®]



Code Changes Resource Collection: 2009 IMC

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INTRODUCTION

Why did IMC/2009 [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 IMC/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 IMC[@] 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 2009 it means that the section no longer exists and the second column A2006 IMC[@] 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. 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 using the 2009 IMC 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 (see page vii) 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 IMC; therefore, the Documentation section of this handbook contains material collected from the following published documents:

2006/2007 Documentation

2006/2006 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.

Code Change No: M39-07/08

Code change numbers are identified with a letter and a year designation. For instance, **M39-07/08** is proposed change number **39** to the International Mechanical Code and was submitted in the **07/08** (2007/2008) code change cycle. (See AIMC Code Change Numbers® on page v for a discussion of code committees)

Original Proposal

This is the proposal as published in the A2007/2008 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 IMC Section 506 – note the term “Supp” following the section number(s) 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 A2008 Report of the Public Hearing to the International Codes.® It includes the committee-s action (As Modified) and reason for the action and also identifies if there was an assembly motion (Disapproved).

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 by this public comment) 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 AAMPC2® which means the eligible voting members of ICC further 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 IPC.

Prefix	Code Committee	Primary IPC Chapters Affected
M	IMC Code Committee	Chapters 1-15
F	IFC Code Committee	Chapter 6
FS	IBC Fire Safety Code Committee	Chapters 5 and 6
FG	IFGC Code Committee	Chapter 3
G	IBC General Committee	Chapters 1 and 2

Although most changes to the IMC are found under proposed change numbers beginning with an M, some changes to the IMC 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:

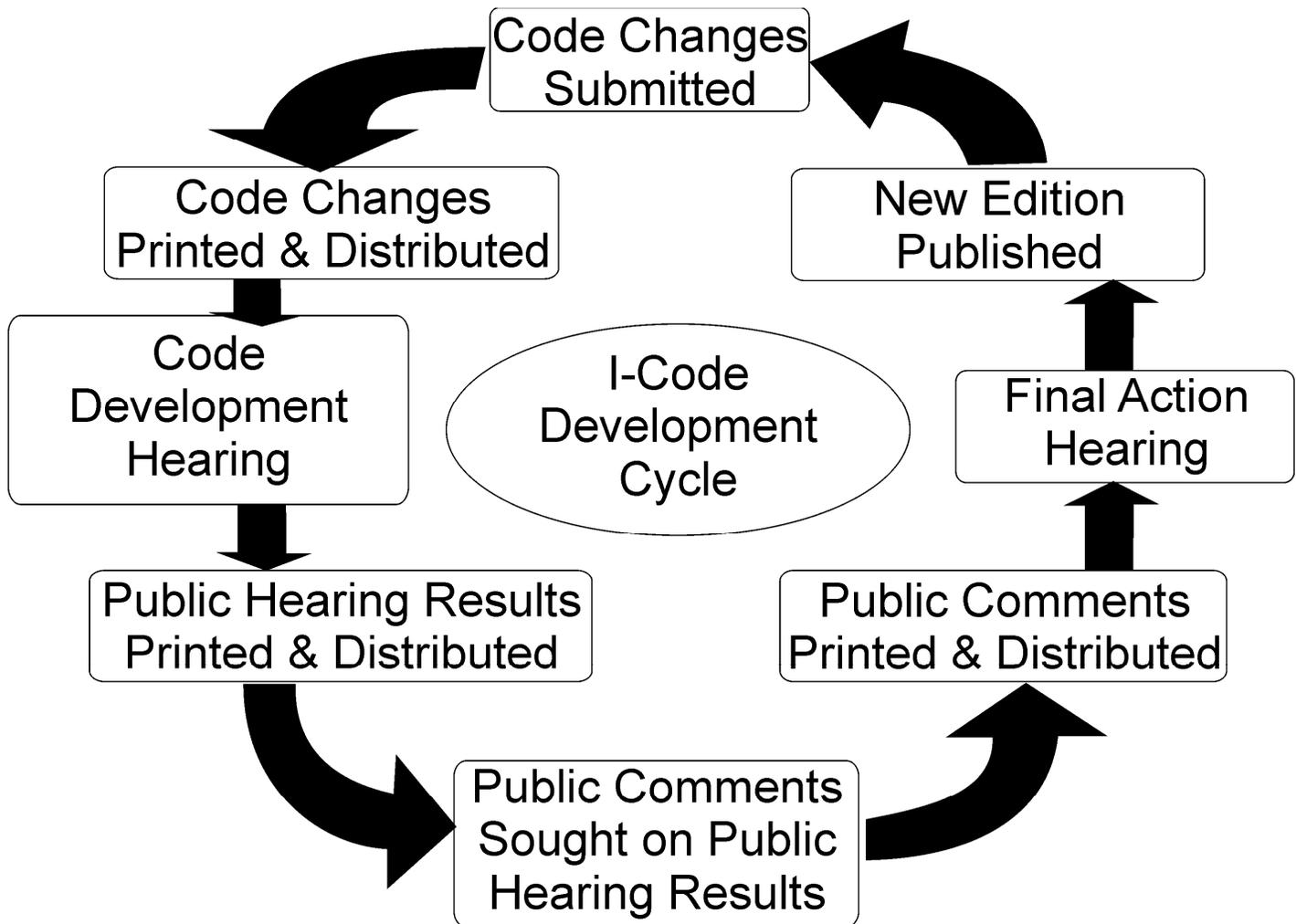
AS	=	Approved as Submitted
D	=	Disapproved
AM	=	Approved as Modified by the Code Committee
AMPC	=	Approved as Modified by a Public Comment
WP	=	Withdrawn by Proponent

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 SCOPE AND ADMINISTRATION

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
Chapter 1-Heading	G221-06/07	Part VI
Part I-Scope and Application	G221-06/07	Part VI
102.1	M1-06/07	
102.8	M1-06/07	
102.10 (New)	M1-06/07	
102.11 (New)	M1-06/07	
Part 2- Administration and Enforcement	G221-06/07	Part VI
103.2	M3-06/07	
103.3	M3-06/07	
103.4	M3-06/07	
104.1	M4-06/07	
Deleted	104.2	M4-06/07
104.2	104.3	M4-06/07
104.7	104.8	M4-06/07
105.1	M5-06/07	
105.2.1 (New)	M5-06/07	
105.4 (New)	M5-06/07	
106.3.2 (New)	FG2-07/08	Part II
106.3.3 (New)	FG3-07/08	Part II
106.4.5	FG4-07/08	Part II
106.4.6	FG5-07/08	Part II
106.4.7 (New)	FG6-07/08	Part II
106.4.8 (New)	FG7-07/08	Part II
107.1 (New)	M7-06/07	
107.2	107.1	M7-06/07
107.2.1 (New)	M7-06/07	
107.2.2 (New)	M7-06/07	
107.2.3 (New)	M7-06/07	
107.2.4	107.1.1	M7-06/07
107.4	107.3	M7-06/07
107.4.1 (New)	M7-06/07	
107.5	107.4	M7-06/07
107.6 (New)	M7-06/07	
110 (New)	M10-06/07	
110.1 (New)	M10-06/07	
110.2 (New)	M10-06/07	
110.3 (New)	M10-06/07	
110.4 (New)	M10-06/07	

CHAPTER 2 DEFINITIONS

2009 IMC	CODE CHANGE NUMBER(S)
Air Dispersion System	M98-06/07 M81-07/08

CHAPTER 2 (continued)

2009 IMC	CODE CHANGE NUMBER(S)
Breathing Zone	M44-06/07
Ceiling Radiation Damper (New)	M11-06/07
Combination Fire/Smoke Damper (New)	M11-06/07 M2-07/08
Fire Damper (New)	M11-06/07
Hood	M3-07/08
Interlock (New)	M4-07/08
Labeled	G16-07/08
Light-Duty Cooking Appliance	M13-06/07, M5-07/08
Listed	G17-07/08
Mechanical Joint	M14-06/07
Medium-Duty Cooking Appliance	M13-06/07
Net Occupiable Floor Area (New)	M44-06/07
Occupiable Space (New)	M44-06/07
Push-Fit Joints (New)	M16-06/07
Smoke Damper (New)	M11-06/07
Zone (New)	M44-06/07

For deleted or relocated definitions see the following code changes: M108-06/7

CHAPTER 3 GENERAL REGULATIONS

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
303.5		M18-06/07
304.3		M8-07/08
304.4 (New)		M8-07/08
304.6	304.5	FG20-06/07
304.10	304.9	M9-07/08
Table 305.4		M19-06/07
305.5		M16-07/08
306.1		M21-06/07
306.2		M11-07/08
306.3		M11-07/08
		FG17-07/08
306.4		M11-07/08
		FG17-07/08
306.5		M29-06/07 M30-06/07 M11-07/08
306.5.1		M31-06/07
307.2.1		M33-06/07
307.2.2		M34-06/07 M35-06/07

CHAPTER 3 (continued)

CHAPTER 5
EXHAUST SYSTEMS

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
Table 307.2.2 (New)		M34-06/07
307.2.3		M15-07/08
		M16-07/08
307.2.3.1		M39-06/07 Part I
307.2.3.2 (New)		M40-06/07 Part I
Table 308.6		M16-07/08 Part I
		M17-07/08 Part I
312.1		M18-07/08

CHAPTER 4
VENTILATION

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
401.1		M42-06/07
401.4		M22-07/08
Deleted	401.4.1	M43-06/07
		M22-07/08
Deleted	401.4.2	M22-07/08
Deleted	401.4.3	M22-07/08
401.5		M22-07/08
Table 401.5		M22-07/08
403.1		M44-06/07
403.2		M44-06/07
403.2.1		M44-06/07
		M23-07/08
403.2.2		M44-06/07
403.3		M44-06/07
Table 403.3		M44-06/07
		M48-06/07
403.3.1 (New)		M44-06/07
403.3.1.1 (New)		M44-06/07
403.3.1.2 (New)		M44-06/07
Table 403.3.1.2 (New)		M44-06/07
403.3.1.3 New		M44-06/07
403.3.2		M44-06/07
403.3.2.1 (New)		M44-06/07
403.3.2.2 (New)		M44-06/07
403.3.2.3 (New)		M44-06/07
403.3.2.3.1 (New)		M44-06/07
403.3.2.3.2 (New)		M44-06/07
Table 403.3.2.3.2 (New)		M44-06/07
403.3.2.3.3 (New)		M44-06/07
403.3.2.3.4 (New)		M44-06/07
403.4 (New)		M44-06/07
403.5	403.3.1	M44-06/07
403.6	403.3.3	M44-06/07
403.7	403.3.4	M44-06/07
404.2		M44-06/07

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
501.1		M42-06/07
501.2.1		M42-06/07
		M53-06/07
		M22-07/08
		M27-07/08
501.2.1.1 (New)		M22-07/08
501.2.2 (New)		M22-07/08
501.3		M54-06/07
502.10.1		CCC
504.2		M57-06/07
504.5		M58-06/07
504.6		M30-07/08 Part I
504.6.1		M62-06/07 Part I
		M30-06/07 Part I
504.6.2		M30-07/08 Part I
504.6.3 (New)		M30-07/08 Part I
		M33-07/08 Part I
504.6.4 (New)		M30-07/08 Part I
504.6.4.1 (New)	504.6.1	M62-06/07 Part I
		M30-07/08 Part I
		M31-07/08 Part I, CCC
504.6.4.2 (New)		M30-07/08 Part I
504.6.5 (New)		M30-07/08 Part I
Table 504.6.5 (New)		M30-07/08 Part I
504.6.6 (New)		M30-07/08 Part I
504.6.7 (New)		M30-07/08 Part I
		M33-07/08 Part I
504.8 (New)		M34-07/08
505.1		M64-06/07 Part I
505.2 (New)		M65-06/07 Part I
506.3.1.1		M66-06/07
		M16-07/08 Part I
506.3.2.1		M36-07/08
506.3.2.5		M68-06/07
		M37-07/08
		M38-07/08
506.3.6		M66-06/07
		M39-07/08
		M40-07/08
506.3.8		M69-06/07
506.3.8.1		M41-07/08
506.3.8.2		M42-07/08
506.3.9		M39-07/08
506.3.10		M74-06/07
		FS8-06/07 Part II
		M39-07/08
506.3.10.1 (New)		M39-07/08
506.3.10.2 (New)		M39-07/08
506.3.10.3 (New)		M39-07/08

CHAPTER 5 (continued)

CHAPTER 6 (continued)

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
506.3.10.4 (New)		M39-07/08
506.3.12.3		M75-06/07
		M43-07/08
Deleted	506.4.1	M44-07/08
506.4.1	506.4.2	M44-07/08
506.4.2 (New)		M76-06/07
		M44-07/08
		M45-07/08
507.1		M46-07/08
		M47-07/08
		M49-07/08
507.2.1		M50-07/08
507.2.2		M77-06/07
		M50-07/08
		M52-07/08
507.2.4		M58-07/08
507.4		M16-07/08 Part I
507.5		M16-07/08 Part I
507.9		M79-06/07
507.13.1		M59-07/08
507.13.2		M59-07/08
		M60-07/08
507.13.3		M59-07/08
		M60-07/08
507.13.4		M59-07/08
		M60-07/08
508.1		M81-06/07
		M61-07/08
508.1.1		M62-07/08
508.2		M83-06/07
510.4		M84-06/07
510.6.1		M64-07/08
510.8		M85-06/07
513.11		FS37-06/07 Part IV
513.13.1		M16-07/08 Part I

**CHAPTER 6
DUCT SYSTEMS**

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
601.2		E122-07/08
601.4		M67-07/08
602.2.1		M89-06/07
602.2.1.4		M71-07/08
602.2.1.4.1 (New)		M71-07/08
602.2.1.4.2 (New)		M71-07/08
Table 603.4		M16-07/08 Part I
603.4.1 (New)		M91-06/07 Part I
603.7		M75-07/08

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
603.8.1		M92-06/07
603.9		M95-06/07 Part I
		M79-07/08 Part I
		M80-07/08 Part I
606.4.1		F120-06/07 Part II
607.1.1		FS46-06/07
607.1.1.1 (New)		FS46-06/07
607.2.1		FS137-07/08
607.3		FS139-07/08
607.3.1		FS139-07/08
607.3.2		FS139-07/08
607.3.2.1		FS130-06/07
		FS139-07/08
607.3.2.3 (New)		FS139-07/08
607.3.3.1	607.3.1.1	FS139-07/08
607.3.3.2	607.3.2.1	FS139-07/08
607.3.3.3 (New)		FS139-07/08
607.3.3.4 (New)		FS139-07/08
607.5		FS140-06/07
		FS141-07/08
607.5.2		FS10-06/07 Part I
607.5.3		FS43-06/07
		FS145-07/08
607.5.5		FS10-06/07 Part I
		FS135-06/07
607.5.5.1 (New)		M84-07/08
607.5.6 (New)		FS139-06/07
607.5.7 (New)		FS140-06/07
607.6.1		FS10-06/07 Part I
607.6.2.1		FS10-06/07 Part I
		FS143-06/07
		FS139-07/08

**CHAPTER 7
COMBUSTION AIR**

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
701.1		M108-06/07 Part I
Deleted	701.2 through 710.1	M108-06/07 Part I

**CHAPTER 8
CHIMNEYS AND VENTS**

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
801.2		M86-07/08
801.18.4		M109-06/07
801.18.4.1 (New)		M109-06/07

CHAPTER 8 (continued)

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
801.20		M110-06/07
803.8		M16-07/08 Part I
Table 803.9(2)		M16-07/08 Part I
Table 803.10.4		M16-07/08 Part I

**CHAPTER 9
SPECIFIC APPLIANCES, FIREPLACES AND
SOLID FUEL-BURNING EQUIPMENT**

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
913.1		M87-07/08
914.2		M113-06/07
915.1		M114-06/07
917.1		M115-06/07
918.6		M88-07/08 Part I FG45-07/08 Part II
924.1		FG49-07/08
927 (New)		M89-07/08
927.1 (New)		M89-07/08
927.2 (New)		M89-07/08

**CHAPTER 10
BOILERS, WATER HEATERS AND
PRESSURE VESSELS**

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
1003.1		M90-07/08

**CHAPTER 11
REFRIGERATION**

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
1101.10 (New)		M91-07/08 Part I
Table 1103.1		M118-06/07 M93-07/08 M94-07/08
1104.2.2		M95-07/08
1107.2 (New)		M98-07/08
1107.2.1 (New)		M98-07/08
1107.2.2 (New)		M98-07/08

**CHAPTER 12
HYDRONIC PIPING**

2009 IMC	2006 IMC	CODE CHANGE NUMBER(S)
1201.2		M99-07/08
Table 1202.4		M121-06/07 M122-06/07 M103-07/08 Part I M104-07/08 Part I
Table 1202.5		M122-06/07 M123-06/07
1203.8.2 (New)		M124-06/07
1203.15.1		M102-07/08
1203.15.3		M102-07/08
1203.16 (New)		M125-06/07
1203.16.1 (New)		M125-06/07
1203.16.2 (New)		M125-06/07
1203.17 (New)		M103-07/08 Part I
1203.17.1 (New)		M103-07/08 Part I
1203.17.2 (New)		M103-07/08 Part I
1203.18 (New)		M104-07/08 Part I
1203.18.1 (New)		M104-07/08 Part I
1203.18.2 (New)		M104-07/08 Part I
1203.19 (New)		M105-07/08
1203.19.1 (New)		M105-07/08
1203.19.2 (New)		M105-07/08
DELETED	1206.1.1	M126-06/07
1206.2		M129-06/07 Part I
1209.5 (New)		M130-06/07 Part I
1209.5.1 (New)		M130-06/07 Part I
1209.5.2 (New)		M130-06/07 Part I
1209.5.3 (New)		M130-06/07 Part I
1209.5.4 (New)		M130-06/07 Part I

**CHAPTER 15
REFERENCED STANDARDS**

ASHRAE	M132-06/07
ASHRAE/ACCA	M18-07/08
ASME	M100-07/08, M106-07/08
ASSE	M132-06/07
ASTM	M122-06/07, M132-06/07, M102-07/08, M103-07/08 Part I, M104-07/08 Part I, M106-07/08
AWWA	M121-06/07, M123-06/07
CSA	M104-07/08 Part I
IIAR	M106-07/08
NFPA	M132-06/07, M106-07/08
SMACNA	M132-06/07, M106-07/08
UL	M85-06/07, M113-06/07, M114-06/07, M115-06/07, M132-06/07, FS143, 06/07, M89-07/08, M106-07/08

Code Change No: **M1-06/07**

Original Proposal

Sections: 102.1, 102.8, 102.10 (New), 102.11 (New)

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 General. ~~The provisions of this code shall apply to all matters affecting or relating to structures and premises, as set forth in Section 104.~~ 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 govern.

102.8 Referenced codes and standards. The codes and standards referenced herein shall be those that are listed in Chapter 15 and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between 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 the manufacturer's installation instructions shall apply.

Add new text as follows:

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. Reference to chapter 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 scope and applicability provisions of the IMC. A section-by-section discussion follows:

102.1: This purpose of this proposed change is to provide correlation with Section 102.1 of the *International Building Code*, *International Residential Code*, and *International Existing Building Code* and Section 102.9 of the *International Fire Code*. The proposal adds an important provision that deals with provisions on the same topic that could be different in technical content. In such an instance, the specific provision (e.g., the one having the narrower scope of application) is to govern.

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

102.8: 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 IMC. The intent is for the highest level of safety to prevail.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

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

102.10: The purpose of this proposed change is to add a needed administrative provision not currently in the IMC, 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 *ICC 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 Fire 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 IMC, 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 *ICC 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 Fire Code, International Private Sewage Disposal Code, International Plumbing Code, International Private Sewage Disposal 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 Submitted

Committee Reason: The proposal adds needed language that clarifies how conflicts between the code and appliance listings or local laws are resolved. This language is consistent with other I-codes. Approval of this change is consistent with actions taken by other committees.

Assembly Action:

None

Final Hearing Results

M1-06/07

AS

Code Change No: M3-06/07

Original Proposal

Sections: 103.2, 103.3, 103.4

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 MECHANICAL INSPECTION**

103.2 Appointment. The code official shall be appointed by the chief appointing authority of the jurisdiction; ~~and the 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 code official shall have the authority to appoint a deputy code official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the code official.

103.4 Liability. The code official, ~~officer~~ 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 ~~required or permitted~~ or by reason of an act or omission in the discharge of official duties.

Any suit instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code; ~~and any officer of the department of mechanical inspection, acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith.~~

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 provisions applicable to the enforcing agency and enforcement personnel. A section-by-section discussion follows:

103.2: The purpose of this change is to correlate with current Section 103.2 of the *International Building Code*, *International Residential Code*, *International Existing Building Code*, and Section 301.2 of the *ICC 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 Fire Code*, *International Private Sewage Disposal 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 *ICC Electrical Code---Administrative Provisions*.

The new text would provide 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 Fire Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Property Maintenance Code*, *International Wildland-Urban Interface Code*, *International Fuel Gas Code*.

103.4: The purpose of this change is to provide correlation with Section 104.8 of the *International Building Code*, *International Residential Code*, *International Existing Building Code*, the text of which provides a more 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 Fire Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Property Maintenance Code*, *International Wildland-Urban Interface Code* and *International Fuel Gas Code*.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This change reorganizes this section to improve its use; it correlates this section with corresponding section in other I-codes. The action is consistent with actions taken by other I-code committees.

Assembly Action:

None

Final Hearing Results

M3-06/07

AS

Code Change No: **M4-06/07**

Original Proposal

Sections: 104.1, 104.2, 104.3, 104.7

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 104
DUTIES AND POWERS OF THE CODE OFFICIAL**

104.1 General. ~~The code official shall enforce the provisions of this code and shall act on any question relative to the installation, alteration, repair, maintenance or operation of mechanical systems, except as otherwise specifically provided for by statutory requirements or as provided for in Sections 104.2 through 104.8. is hereby authorized and directed to enforce the provisions of this code. The code official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies, and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.~~

Delete without substitution:

~~**104.2 Rule-making authority.** The code official shall have authority as necessary in the interest of public health, safety and general welfare, to adopt and promulgate rules and regulations; to interpret and implement the provisions of this code; to secure the intent thereof; and to designate requirements applicable because of local climatic or other conditions. Such rules shall not have the effect of waiving structural or fire performance requirements specifically provided for in this code, or of violating accepted engineering methods involving public safety.~~

Revise as follows:

104.2 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the installation and alteration of mechanical systems, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

104.7 104.8 Department records. The code official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records, as long as the building or structure to which such records relate remains in existence, unless otherwise provided for by other regulations.

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 duties and powers of the code official. A section-by-section discussion follows:

104.1: The purpose of this proposed change is to provide correlation with current Section 104.1 of the *International Building Code*, *International Residential Code*, *International Existing Building Code*, and Section 302.1 of the *ICC Electrical Code--Administrative Provisions* the text of which the AHC-Admin felt provide a more comprehensive and orderly approach than the current text of this section.

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

104.2: This section is proposed for deletion because the AHC judged that the subject is better addressed in the proposed language for Section 104.1. Also, no comparable provision exists in the *International Building Code*, *International Residential Code*, *International Fire Code*, *International Existing Building Code*, *International Energy Conservation Code*, or *International Wildland-Urban Interface Code*. A similar correlating proposal has been submitted to the *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Property Maintenance Code* and *International Fuel Gas Code*.

104.2 104.3: The purpose of this proposed change is to provide correlation with current Section 104.2 of the *International Building Code*, *International Residential Code* and *International Fire Code* and Section 302.2 of the *ICC Electrical Code--Administrative Provisions*. Review of construction documents is an integral power and duty of the code official and warrants inclusion here. A similar correlating proposal has been submitted to the *International Fuel Gas*, *International Plumbing Code*, *International Private Sewage Disposal Code*, and *International Wildland-Urban Interface Code*.

104.7 104.8 The purpose of this change is to provide correlation with current Section 104.7 of the *International Building Code*, *International Residential Code* and *International Existing Building Code*. Records retention in the public domain is often established by state laws with which the revision here should also provide correlation.

A similar correlating proposal has also been submitted to the *International Fire Code*, *International Fuel Gas Code*, *International Plumbing Code*, *International Property Maintenance 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 Submitted

Committee Reason: This change reorganizes this section to improve its use; it correlates this section with corresponding section in other I-codes. The action is consistent with actions taken by other I-code committees.

Assembly Action:

None

Final Hearing Results

M4-06/07

AS

Code Change No: **M5-06/07**

Original Proposal

Sections 105.1, 105.2.1 (New), 105.4 (New)

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 105
APPROVAL**

105.1 Modifications. Whenever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases, upon application of the owner or owner's representative provided the code official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and does not lessen health, life and fire safety requirements. The details of action granting modifications shall be recorded and entered in the files of the mechanical inspection department.

Add new text as follows:

105.2.1 Research reports. Supporting data, where 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.

105.4 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

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 approval provisions of the IMC. A section-by-section discussion follows:

105.1: The purpose of this proposed change is to provide correlation with current Section 104.10 of the *International Building Code* and *International Existing Building Code* and Section 601.2 of the *ICC Electrical Code---Administrative Provisions* by adding an important element to the requirements in the form of a clear statement of what the basis is for the code official to consider a modification, i.e. upon application by the owner.

A similar correlating proposal has also been submitted to the *International Residential Code, International Fire Code, International Plumbing Code, International Private Sewage Disposal Code, International Fuel Gas Code, International Energy Conservation Code* and *International Property Maintenance Code*.

105.2.1: The purpose of this proposed change is to provide a needed administrative provision not currently in the IMC, the source text for which is Section 104.11.1 of the *International Building Code*.

The section would provide a means for the code official to judge the suitability or equivalency of an alternative method being proposed. Reports providing evidence of this equivalency must be supplied by a source that the code official considers reliable and accurate.

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

105.4: The purpose of this proposed change is to provide a needed administrative provision not currently in the IMC and to provide correlation with Section 104.9 of the *International Building Code, International Residential Code, and International Existing Building Code* and Section 104.7 of the *International Fire Code*.

This new provision would make it clear that once equipment and materials are approved by the code official, their installation must be conducted in full accord with that approval.

A similar correlating proposal has also been submitted to the *International Plumbing Code, International Fuel Gas Code, International Energy Conservation 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 Submitted

Committee Reason: This change reorganizes this section to improve its use; the action is consistent with actions taken by other I-code committees.

Assembly Action:

None

Final Hearing Results

M5-06/07

AS

Code Change No: **M7-06/07**

Original Proposal

Sections 107.1 (New), 107.2.1 (New), 107.2.2 (New), 107.2.3 (New), 107.2.4, 107.4.1 (New), 107.6 (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 107 INSPECTIONS AND TESTING

107.1 General. The code official is authorized to conduct such inspections as are deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the code official, and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid.

Revise as follows:

107.42 Required inspections and testing. The code official, upon notification from the permit holder or the permit holder's agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or shall notify the permit holder or the permit holder's agent of violations that must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before backfill is put in place. When excavated soil contains rocks, broken concrete, frozen chunks and other rubble that would damage or break the piping or cause corrosive action, clean backfill shall be on the job site.
2. Rough-in inspection shall be made after the roof, framing, fireblocking and bracing are in place and all ducting and other components to be concealed are complete, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made upon completion of the mechanical system.

Exception: Ground-source heat pump loop systems tested in accordance with Section 1208.1.1 shall be permitted to be backfilled prior to inspection.

The requirements of this section shall not be considered to prohibit the operation of any heating equipment or appliances installed to replace existing heating equipment or appliances serving an occupied portion of a structure provided that a request for inspection of such heating equipment or appliances has been filed with the department not more than 48 hours after such replacement work is completed, and before any portion of such equipment or appliances is concealed by any permanent portion of the structure.

Add new text as follows:

107.2.1 Other inspections. In addition to the inspections specified above, the code official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced.

107.2.2 Inspection requests. It shall be the duty of the holder of the permit or their duly authorized agent to notify the 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.

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

Revise as follows:

107.2.4 ~~107.1.4~~ **Approved inspection agencies.** The code official shall is authorized to accept reports of approved agencies, provided that such agencies satisfy the requirements as to qualifications and reliability.

(Renumber subsequent sections)

107.4 ~~107.3~~ **Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official.

Add new text as follows:

107.4.1 Revocation. The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

Revise as follows:

107.4-5 Temporary connection. The code official shall have the authority to authorize the temporary connection of a mechanical system to the sources of energy for the purpose of testing mechanical systems or for use under a temporary certificate of occupancy.

Add new text as follows:

107.6 Connection of service utilities. No person shall make connections from a utility, source of energy, fuel, or power to any building or system that is regulated by this code for which a permit is required, until released by the 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 the inspection and testing provisions in the IMC. A section-by-section discussion follows:

107.1: The purpose of this proposed change is to provide a needed administrative provision not currently in the IMC, the source texts for which are, in part, Section 109.1 of the *International Building Code* and *International Existing Building Code*, Section 106.2 of the *International Fire Code*, Section 107.1.1 of the *International Wildland-Urban Interface Code* and Section 702.2 of the *ICC Electrical Code---Administrative Provisions*.

The inspection function is one of the more important aspects of department operations. This section authorizes the code official to inspect the work for which a permit has been issued and requires that the work to be inspected remain accessible to the code official until inspected and approved. As with the issuance of permits, approval as a result of an inspection is not a license to violate the code and an approval in violation of the code does not relieve the applicant from complying with the code and is not valid.

A similar correlating change has been submitted to the *International Building Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Energy Conservation Code*, and *International Fuel Gas Code*.

107.2.1: The purpose of this proposed change is to provide a needed administrative provision not currently in the IMC, the source text for which is Section 109.3.8 of the *International Building Code*, Section 109.3.7 of the *International Existing Building Code*, and Section 702.1.5 of the *ICC Electrical Code---Administrative Provisions*.

Any item regulated by the code is subject to inspection by the code official to determine compliance with the applicable code provision, and no list can include all items in a given building. This section would give the code official the authority to inspect any regulated items.

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

107.2.2: The purpose of this proposed change is to provide a needed administrative provision not currently in the IMC, 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 *ICC 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 Wildland-Urban Interface Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, and *International Fuel Gas Code*.

107.2.3: The purpose of this proposed change is to provide a needed administrative provision not currently in the IMC, 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 *ICC Electrical Code---Administrative Provisions*.

This section would provide the code official with a useful administrative tool that would establish 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 Wildland-Urban Interface Code*, *International Plumbing Code*, *International Private Sewage Disposal Code*, and *International Fuel Gas Code*.

107.2.4 107.4.1: The purpose of this change is to provide correlation with Section 109.4 of the *International Building Code* and *International Existing Building Code*, Section 106.2 of the *International Fire Code*, Section 109.2 of the *International Residential Code*, and Section 702.5 of the *ICC Electrical Code---Administrative Provisions*.

The determination as to whether to accept an agency report should rest with the code official and not be mandated by the code.

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

107.4.1: The purpose of this proposed change is to provide a needed administrative provision complementary to Section 107.3 but not currently in the IMC, the source text for which is Section 110.4 of the *International Building Code*, *International Existing Building Code* and *International Residential Code*.

This proposed section would give the code official the authority to revoke a notice of approval for the reasons indicated in the text. The code official may also suspend the notice until any code violations are corrected.

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

107.6: The purpose of this proposed change is to provide a needed administrative provision not currently in the IMC, the source text for which is Section 111.1 of the *International Building Code*, *International Existing Building Code* and *International Residential Code* and Section 801.1 of the *ICC Electrical Code---Administrative Provisions*.

This proposed section would provide the code official with a valuable administrative tool by establishing the authority of the code official to approve utility connections to a building for the protection of building occupants, including workers.

A similar correlating proposal has also been submitted to the *International Plumbing Code*, *International Fuel Gas 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:

107.6 Connection of service utilities. No person shall make connections from a utility, source of energy, fuel, or power to any building or system that is regulated by this code for which a permit is required, until ~~released~~ authorized by the code official.

(Portions of proposal not shown remain unchanged.)

Committee Reason: This change reorganizes this section to improve its use; it correlates this section with corresponding section in other I-codes. The modification to Section 107.6 changed the word "released" to "authorized" which is the appropriate code language.

Assembly Action:

None

Final Hearing Results

M7-06/07

AM

Code Change No: **M10-06/07**

Original Proposal

Sections 110 (New), 110.1 (New), 110.2 (New), 110.3 (New), 110.4 (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 110 **TEMPORARY EQUIPMENT, SYSTEMS AND USES**

110.1 General. The code official is authorized to issue a permit for temporary equipment, systems and 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.

110.2 Conformance. Temporary equipment, systems 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 the public health, safety and general welfare.

110.3 Temporary utilities. The code official is authorized to give permission to temporarily supply utilities before an 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 code.

110.4 Termination of approval. The code official is authorized to terminate such permit for temporary equipment, systems or uses and to order the temporary equipment, systems or uses to be discontinued.

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 temporary structures and uses provisions in the IMC. The purpose of this proposed change is to provide needed administrative provisions not currently in the IMC, the source text for which is Section 107 of the *International Building Code*, *International Existing Building Code* and *International Residential Code* with the text having been modified for applicability to mechanical systems. A similar correlating proposal has also been submitted to the *International Plumbing Code*, *International Private Sewage Disposal Code*, *International Fuel Gas Code* and *International Wildland-Urban Interface Code*. A section-by-section discussion follows:

110.1: In the course of construction or other activities, equipment, systems and uses that have a limited service life are often necessary. This section contains the administrative provisions that allow the code official to issue permits for such temporary equipment, systems and uses and for them to exist without full compliance with the code requirements for permanent installations.

110.2: This section prescribes those categories of the code that must be complied with, despite the fact that the structure, equipment or system will be removed or the use discontinued at some time in the future. These criteria are essential for measuring the safety of any structure, equipment, system or use, temporary or permanent. Therefore, the application of these criteria to a temporary structure cannot be waived.

110.3: Commonly, the utilities on many construction sites are installed and energized long before all aspects of the system are completed. This section would allow such temporary or pre-certification systems to continue provided that they comply with the applicable safety provisions of the code.

110.4: This section provides the code official with the necessary authority to terminate the permit for temporary equipment, systems and uses if conditions of the permit have been violated or if they pose an imminent hazard to the public. This text is important because it allows the code official to act quickly when time is of the essence in order to protect public health, safety and welfare.

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 Submitted

Committee Reason: This proposal adds needed guidance concerning temporary equipment and uses. It will provide consistency with the other I-codes.

Assembly Action:

None

Final Hearing Results

M10-06/07

AS

Code Change No: M11-06/07

Original Proposal

Section 202 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc., representing same

Add new text as follows:

CEILING RADIATION DAMPER. A listed device installed in a ceiling membrane of a fire-resistance-rated floor/ceiling or roof/ceiling assembly to limit automatically the radiative heat transfer through an air inlet/outlet opening.

COMBINATION FIRE/SMOKE DAMPER. A listed device installed in ducts and air transfer openings designed to close automatically upon the detection of heat and resist the passage of flame and smoke. The device is installed to operate automatically, controlled by a smoke detection system, and where required, is capable of being positioned from a fire command center.

FIRE DAMPER. A listed device installed in ducts and air transfer openings designed to close automatically upon detection of heat and to restrict the passage of flame. Fire Dampers are classified for use in either static systems that will automatically shut down in the event of a fire, or in dynamic systems that continue to operate during a fire. A dynamic fire damper is tested and rated for closure under elevated temperature airflow.

SMOKE DAMPER. A listed device installed in ducts and air transfer openings designed to resist the passage of smoke. The device is installed to operate automatically, controlled by a smoke detection system, and where required, is capable of being positioned from a fire command center.

Reason: The purpose of this proposed code change is to provide definitions for the various types of dampers described in Section 607 of the IMC. This assures consistency with the IBC definitions.

The proposed definitions are taken directly from Chapter 7 of the 2006 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:

COMBINATION FIRE/SMOKE DAMPER. A listed device installed in ducts and air transfer openings designed to close automatically upon the detection of heat and resist the passage of flame and smoke. The device is installed to operate automatically and be controlled by a smoke detection system ~~and where required, is capable of being positioned from a firecommand center.~~

Committee Reason: The proposal adds definitions for terms used in the IMC but never defined except in the IBC. The definitions are the same as the IBC definitions. The modification deletes a phrase that is more appropriate for the IFC or IBC, but is not an issue in the IMC.

Assembly Action:

None

Final Hearing Results

M11-06/07

AM

Code Change No: M13-06/07

Original Proposal

Section 202

Proponent: Robert Adkins, Prince William County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

**CHAPTER 202
GENERAL DEFINITIONS**

LIGHT-DUTY COOKING APPLIANCE. Light-duty cooking appliances include gas and electric ovens (including standard, bake, roasting, revolving, retherm, convection, combination convection/steamer, conveyor, deck or deck-style pizza, and pastry), electric and gas steam-jacketed kettles, electric and gas pasta cookers, electric and gas compartment steamers (both pressure and atmospheric) and electric and gas cheesemelters.

MEDIUM-DUTY COOKING APPLIANCE. Medium-duty cooking appliances include electric discrete element ranges (with or without oven), electric and gas hot-top ranges, electric and gas griddles, electric and gas double-sided griddles, electric and gas fryers (including open deep fat fryers, donut fryers, kettle fryers, and pressure fryers), ~~electric and gas pasta cookers~~, electric and gas conveyor pizza ovens, electric and gas tilting skillets (braising pans) and electric and gas rotisseries.

Reason: Section 507.2.2 allows pasta cookers to be installed beneath Type II hoods. Therefore, the term "pasta cookers" should not be included in the definition of MEDIUM-DUTY COOKING APPLIANCES because Section 507.13 requires a Type I hood for medium-duty appliances.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Pasta cookers generate heat and steam only and should be included in the definition of Light Duty Cooking Appliances which allows Type II hoods to be used.

Assembly Action:

None

Final Hearing Results

M13-06/07

AS

Code Change No: **M14-06/07**

Original Proposal

Section 202

Proponent: Sidney Cavanaugh, Cavanaugh Consulting, representing Nvent

Revise as follows:

MECHANICAL JOINT. A connection between pipes, fittings, or pipes and fittings, which is neither screwed, caulked, threaded, soldered, solvent cemented, brazed nor welded. Also, a joint in which compression is applied along the centerline of the pieces being joined. Some joints are part of a coupling, fitting or adapter. These joints include both the press-type and push-fit joining system.

Reason: This code change will clarify the use of some types of mechanical joints and recognize a new technology that offers a solder-less joining system that complies with appropriate copper pipe, copper tube and fittings standards. The fittings are listed by all major code organizations and CSA. They can be used on water distributions systems and hydronic heating systems.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This change expands the definition of mechanical joints by adding the push-type joints added to the code by M124-06/07.

Assembly Action:

None

Final Hearing Results

M14-06/07

AS

Code Change No: **M16-06/07**

Original Proposal

Section 202 (New)

Proponent: Sidney Cavanaugh, Cavanaugh Consulting, representing Nvent

Add new text as follows:

PUSH-FIT JOINTS. A type of mechanical joint consisting of elastomeric seals and corrosion resistant tube grippers. Such joints are permanent or removable depending on the design.

Reason: This code change will recognize a new technology that offers a solder-less joining system that complies with appropriate copper pipe, copper tube and fittings standards. The fittings are listed by all major code organizations and CSA. They can be used on water distributions systems and hydronic heating systems.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This change adds a definition of push-type joints that were added to the code by M124-06/07.

Assembly Action:

None

Final Hearing Results

M16-06/07

AS

Code Change No: **M18-06/07**

Original Proposal

Sections: 303.5; IFGC 303.5

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

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

PART I – IMC

Revise as follows:

303.5 Indoor locations. Fuel-fired furnaces, water heaters and boilers installed in closets and alcoves shall be listed for such installation. For purposes of this section, a closet or alcove shall be defined as a room or space having a volume less than 12 times the total volume of fuel-fired appliances other than boilers and less than 16 times the total volume of boilers. Room volume shall be computed using the gross floor area and the actual ceiling height up to a maximum computation height of 8 feet (2438 mm).

PART II – IFGC

Revise as follows:

303.5 Indoor locations. Furnaces, water heaters and boilers installed in closets and alcoves shall be listed for such installation.

Reason: There is no reason to not include a water heater in this section. There are oil fired units that are designed to be installed in a closet and there are units that must have the space as required for a non-closet application as this section describes.

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

Public Hearing Results

PART I – IMC

Committee Action:

Approved as Submitted

Committee Reason: The installation in closets of water heaters not listed for such use is a common problem. This change will help to remind the inspector to check for the listing when water heaters are installed in closets.

Assembly Action:

None

PART II — IFGC

Committee Action:

Disapproved

Committee Reason: Disapproval is consistent with the action taken on FG15-06/07. There is no reason to add waters heaters to this section because the installation of such appliances in any space is already covered in the listing and manufacturer's installation instructions. The manufacturer's instructions always list the required clearances for the spaces in which the appliance is listed for installation.

Assembly Action:

Approved as Submitted

Final Hearing Results

M18-06/07, PART I	AS
M18-06/07, PART II	D

Code Change No: M19-06/07

Original Proposal

Table 305.4

Proponent: Jim Paschal, Bodycote Testing Group, representing Aquatherm

Revise table as follows:

**TABLE 305.4
PIPE SUPPORT SPACING**

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING (feet)
Polypropylene (PP) pipe or tubing 1 inch and smaller	<u>2 2/3</u> (32 inches)	<u>10^c</u>
Polypropylene (PP) pipe or tubing, 1 ¼ inches and larger	<u>4</u>	<u>10^c</u>

(Portions of table not shown do not change)

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- a. See Section 301.15.
- b. The maximum horizontal spacing of cast-iron pipe hangers shall be increased to 10 feet where 10-foot lengths of pipe are installed.
- c. Mid-story guide.

Reason: The purpose of this revision is to allow the use of PP piping materials in the IMC for hydronic applications. PP systems have been used in hydronic applications for over 20 years in Europe, and are currently being used in the U.S. through local jurisdictional approvals. There are architects and design engineers that would like to use these materials once they are in the IMC. The PP systems provide some advantages in green building design and LEED certification not available with current materials in the IMC.

PP piping systems were added to the IPC and IRC in 2006. In the IRC, the material is acceptable for both hydronic and plumbing applications. The systems are also listed by ICC under Evaluation Report (ESR) 1613 for hydronic applications in accordance with the IMC. There is an ASTM standard for the products, F 2389, and the products are also listed by NSF International.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Polypropylene was added to the code this cycle for hydronic systems by code change M122-06/07. This change is needed to provide the proper support spacing and needs to be added to this table.

Assembly Action:

None

Final Hearing Results

M19-06/07

AS

Code Change No: M21-06/07

Original Proposal

Section: 306.1 (IFGC 306.1)

Proponent: Charlie Gerber, Henrico County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

306.1 Clearances Access for maintenance and replacement. ~~Clearances around appliances to elements of permanent construction, including other installed equipment and appliances, shall be sufficient to allow inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly.~~ Appliances shall be accessible for inspection, service, repair and replacement without disabling the function of a fire-resistance-rated assembly or removing permanent construction, other appliances, or any other piping or ducts not connected to the appliance being inspected, serviced, repaired or replaced. A level working space at least 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an appliance.

Reason: This language was adopted in the IRC last code cycle. It is a clarification that prevents other systems from being altered in order to repair or replace another appliance.

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:

306.1 Access for maintenance and replacement. Appliances shall be accessible for inspection, service, repair and replacement without disabling the function of a fire-resistance-rated assembly or removing permanent construction, other appliances, venting systems or any other piping or ducts not connected to the appliance being inspected, serviced, repaired or replaced. A level working space at least 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an appliance.

Committee Reason: This language is necessary to insure that other systems or appliances are not required to be altered or dismantled when servicing, repairing or replacing other appliances. The modification added "venting systems" because those systems could also be affected when other systems or appliances are modified or replaced.

Assembly Action:

None

Final Hearing Results

M21-06/07

AM

Code Change No: **M29-06/07**

Original Proposal

Section: 306.5 (IFGC 306.5)

Proponent: Charlie Gerber, Henrico County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

306.5 Equipment and appliances on roofs or elevated structures. Where equipment and appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances' level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Where access involves climbing over parapet walls, the height shall be measured to the top of the parapet wall.

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1 kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2 kg/m²) per square foot.
7. Ladders shall be protected against corrosion by approved means. Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Exception: This section shall not apply to Group R-3 occupancies.

Reason: The current text would allow an appliance to be installed on a roof that is 15 feet in height from grade, with a 3 feet high parapet around the entire roof with no permanent access, even though the required height to access the appliance on the 15 feet high roof could actually be 18 feet in height or more depending on the size of the parapet. The intent of this section is safety and it is clear that the line of demarcation is 16 feet for requiring a permanent means of access. This corrects the loop hole some have attempted to take advantage of with the unfortunate end result being a less than safe installation.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: If there is a parapet wall around the roof edge that must be climbed, it should be included in the measurement from the ground when determining whether permanent access is required.

Assembly Action:

None

Final Hearing Results

M29-06/07

AS

Code Change No: **M30-06/07**

Original Proposal

Section: 306.5 (IFGC 306.5)

Proponent: Tony Longino, County of Greenville, SC, representing himself

Revise as follows:

306.5 Equipment and appliances on roofs or elevated structures. Where equipment and appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm) such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances' level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope).

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1 kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2 kg/m²) per square foot. Landing dimensions shall be not less than 18" and not less than the width of the ladder served. A guard rail shall be provided on all open sides of the landing.
7. Ladders shall be protected against corrosion by approved means. Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Reason: Landing dimension for stairways, doors and ramps are provided in the Building and Fire codes; all of which are a minimum of 36". No dimensions are given in any of the codes for ladder landings as required by this section of the Mechanical code. All of the landing dimensions are required to be the size of the stairway or the door. For this reason the 18" minimum dimension was chosen to match the minimum width requirement of the ladder

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Adding a minimum landing dimension for ladders will increase the safety of such installations. The dimensions specified are consistent with OSHA requirements for ladders.

Assembly Action:

None

Final Hearing Results

M30-06/07

AS

Code Change No: **M31-06/07**

Original Proposal

Section: 306.5.1 (IFGC 306.5.1)

Proponent: Charlie Gerber, Henrico County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

306.5.1 Sloped roofs. Where appliances, equipment, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the appliance or equipment to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*. Access to appliances shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Where access involves obstructions greater than 30 inches in height permanent ladders, or equivalent, shall be provided on all sides requiring access in accordance with the ladder requirements of Section 306.5.

Reason: The added language is from the existing proceeding section 306.5. It is not specifically stated in this section referring to sloped roofs and therefore some feel it is not applicable. The current section is provided to protect the health and welfare of service personnel. However it leaves a gap in safety coverage from where the appliance is actually located to where the roof accessed. If the roof is over 16 feet in height the code provides requirements for permanent access (Section 306.5) otherwise for lower installations a portable ladder is usually the method of choice to get to roof mounted appliances. But the appliance can be 10, 50 or 100 feet and further, (there's currently no distance limit) from the roof access to the appliance, walking on a sloped roof! The service person has to not only carry the tools required for the task but what about the repair parts themselves? Compressors, motors etc.. This puts the serviceperson in a compromising position to get the job done safely. The proposed text provides a safe work environment for everyone, the installer and the service person and closes the gap for this important life-safety issue.

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

Analysis: It is not clear what is intended by requiring ladders "on all sides requiring access".

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

306.5.1 Sloped roofs. Where appliances, equipment, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the appliance or equipment to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*. Access to appliances shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Where access involves obstructions greater than 30 inches in height on any side, permanent ladders, or equivalent, shall be provided ~~on all sides requiring~~ access in accordance with the ladder requirements of Section 306.5.

Committee Reason: This change will increase the safety of service personnel by providing permanent access means when a steep roof must be crossed or a 30 inch high obstruction must be climbed. Carrying tools and appliance components over such obstacles is very dangerous. This will require a ladder to be installed closer to the appliance or equipment. The modification revises some confusing language to clarify that the 30 inch measurement is to any side of the obstacle, not that ladders are required on all sides of the obstacle.

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:

Charles Gerber, Henrico County Virginia, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association, requests Approval as Modified by this Public Comment.

Further modify proposal as follows:

306.5.1 Sloped roofs. Where appliances, equipment, fans or other components that require service are installed on a roof having a slope of three units vertical in 12 units horizontal (25-percent slope) or greater and having an edge more than 30 inches (762 mm) above grade at such edge, a level platform shall be provided on each side of the appliance or equipment to which access is required for service, repair or maintenance. The platform shall be not less than 30 inches (762 mm) in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches (1067 mm) above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*. ~~Access to appliances shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Where access involves obstructions greater than 30 inches in height, on any side, permanent ladders, or equivalent, shall provide access in accordance with the ladder requirements of Section 306.5 such obstructions shall be provided with ladders installed in accordance with Section 306.5 or stairs installed in accordance with the requirements specified in the *International Building Code* in the path of travel to and from appliances, fans or equipment requiring service.~~

Commenter's Reason: The modification that was approved in the public comment hearings did not provide the clarity that this new wording now provides. The changes to this section that are incorporated into this final action comment are as follows. It is prohibited to walk on roofs with a slope of 4 to 12 to access appliances or equipment. It is not reasonable to expect service personal to safely carry tools and typical repairs parts across a sloped roof. Where obstacles are located in the path of travel to or from appliances or equipment that are greater than 30 inches (such as a parapet) a means to navigate the obstacle such as a ladder or stairs shall be provided to permit safe access.

Final Hearing Results

M31-06/07

AMPC1

Code Change No: **M33-06/07**

Original Proposal

Sections 307.2.1 (IPC 314.2.1); IRC M1411.3

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

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

PART I – IMC

Revise as follows:

307.2.1 Condensate disposal Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

PART II – IRC**Revise as follows:**

M1411.3 Condensate disposal. Condensate from all cooling coils or evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas where it would cause a nuisance.

Reason: The slope requirements need to be re-stated in this section to make clear that evaporators and cooling coils are treated no different than fuel-burning appliances as it relates to drain slope.

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

Analysis: Similar action should be considered for M36-06/07.

Public Hearing Results

PART I — IMC**Committee Action:****Approved as Submitted**

Committee Reason: This change places the slope requirements for condensate from cooling coils in the appropriate section rather than relying on the slope requirements in the section addressing fuel-fired appliances.

Assembly Action:**None****PART II — IRC****Committee Action:****Approved as Submitted**

Committee Reason: This code change provides proper guidance for selecting the slope of a condensate line and puts it in the appropriate section of the IRC.

Assembly Action:**None**

Final Hearing Results

M33-06/07, PART I	AS
M33-06/07, PART II	AS

Code Change No: M34-06/07

Original Proposal

Section 307.2.2, Table 307.2.2 (New) (IPC 314.2.2) (IFGC 307.3)

Proponent: Michael Baker, City of Prescott, AZ, representing the Arizona Building Officials

Revise as follows:

307.2.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Condensate waste and drain line size shall be not less than 3/4-inch (19 mm) internal diameter and shall not decrease in size from the drain pan

connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2. ~~All horizontal sections of drain piping shall be installed in uniform alignment at a uniform slope. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope).~~

Add new text as follows:

**TABLE 307.2.2
CONDENSATE DRAIN SIZING**

<u>EQUIPMENT CAPACITY</u>	<u>MINIMUM CONDENSATE PIPE DIAMETER</u>
Up to 20 tons (70.3 kw) of refrigeration	<u>3/4 inch (19 mm)</u>
Over 20 tons (70.3 kw) to 40 tons (141 kw) of refrigeration	<u>1 inch (25 mm)</u>
Over 40 tons (141 kw) to 90 tons (317 kw) of refrigeration	<u>1 1/4 inch (32 mm)</u>
Over 90 tons (317 kw) to 125 tons (440 kw) of refrigeration	<u>1 1/2 inch (38 mm)</u>
Over 125 tons (440 kw) to 250 tons (879 kw) of refrigeration	<u>2 inch (51 mm)</u>

Reason: The purpose of this code change is to provide code language for officials and installers as a reference for condensate sizing of multiple unit systems.

Currently the code recognizes the minimum condensate disposal size, generally for a single unit. However it relies on the designer to use an approved method for condensate sizing for multiple units. There is no direction or reference as to what is an acceptable design standard. The ASHRAE Handbook and the ASPE handbook do not provide an effective way of sizing a condensate line system. Without the manufacturers literature at plan review or on the jobsite during inspection there is no accurate way to determine if the correct size has been installed. Many times this leaves the code official guessing as to the proper size of the condensate line. The table will allow for an effective way of determining the sizing requirements without having the manufacturer’s literature available. This does not stop one from using the manufacturer’s specifications if they are available prior to installation. The sizing requirements have been brought forward from one of the legacy codes. In the past ten years we have done nothing to address this issue, except to write it out of the code and put it back on the manufacturer.

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:

307.2 (IPC [M] 314.2.2, IFGC [M] 307.3) Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Condensate waste and drain line size shall be not less than 3/4-inch (19 mm) internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 307.2.2. ~~Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope).~~

(Portions of proposal not shown remain unchanged.)

Committee Reason: The new table adds needed guidance for sizing condensate lines. The modification deletes the slope requirements which are adequately covered in another section.

Assembly Action:

None

Final Hearing Results

M34-06/07

AM

Code Change No: **M35-06/07**

Original Proposal

Sections: 307.2.2; IRC M1411.3.2 (IFGC 307.3) (IPC 314.2.2)

Proponent: Charlie Gerber, Henrico County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

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

PART I – IMC

Revise as follows:

307.2.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 7 of the *International Plumbing Code* relative to the material type. Condensate waste and drain line size shall be not less than 3/4-inch (19 mm) internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with an approved method. All horizontal sections of drain piping shall be installed in uniform alignment at a uniform slope.

PART II – IRC

Revise as follows:

M1411.3.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 30 relative to the material type. Condensate waste and drain line size shall be not less than 3/4-inch (19 mm) internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with an approved method. All horizontal sections of drain piping shall be installed in uniform alignment at a uniform slope.

Reason: There is no guidance provided in the IMC/IRC/IFGC on piping joints and connection requirements. This is sometimes overlooked and premature deterioration of systems is occurring. One example is primer is often not applied to PVC condensate line connections.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: This code change adds guidance for joining condensate piping by referring to the IPC chapter which describes the acceptable methods of joining for various pipe materials.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Submitted

Committee Reason: This code change adds guidance for joining condensate piping by referring to the IPC chapter which describes the acceptable methods of joining for various pipe materials.

Assembly Action:

None

Final Hearing Results

M35-06/07, Part I AS
M35-06/07, Part II AS

Code Change No: M39-06/07

Original Proposal

Sections: 307.2.3.1; IRC M1411.3.1.1 (IPC 314.2.3.1)

Proponent: Lawrence Brown, CBO, representing the National Association of Home Builders (NAHB)

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

PART I – IMC

Revise as follows:

307.2.3.1 Water level monitoring devices. On down-flow units and all other coils that have no secondary drain ~~and no means or provisions~~ to install ~~an a~~ a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the equipment served in the event that the primary drain becomes restricted. ~~Externally installed devices and~~ Devices installed in the drain line shall not be permitted.

PART II - IRC

Revise as follows:

M1411.3.1.1 Water level monitoring devices. On down-low units and all other coils that have no secondary drain ~~and no means or provisions~~ to install ~~an a~~ a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the equipment served in the event that the primary drain becomes restricted. ~~Externally installed devices and~~ Devices installed in the drain line shall not be permitted.

Reason: After consultation with engineers of the manufacturer's of these units, the proposed modification shown above better relates to the actual designs of the units, and allows a more performance approach to achieve the intent of this new provision. Many units already have the ability to install a "secondary" or an "auxiliary" drain pan designed into the unit (both are terms of the trade for these pans). The first part of the last sentence is deleted as it would preclude devices currently on the market that are designed to shut off the equipment. Though the float switch may be located in the drain pan (as required by this provision), other parts of the device may be external to the unit. This provision should not be limited to a device that is completely located internally to the unit. The concern that the device not be located in the drain line is retained.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: This change clarifies that some units have no provisions for either a secondary or auxiliary drain pan. The deleted language from the second sentence allows a device to be installed with the float switch inside the pan and the rest of the device external to the pan, which meets the original intent of this section. The most important part of this section is preventing the sensor from being installed in the drain line.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Submitted

Committee Reason: This change clarifies that some units have no provisions for either a secondary or auxiliary drain pan. Deleting the language from the second sentence will provide more options for the designer or installer to select a water level monitoring device which may have part of the device located outside the pan.

Assembly Action:

None

Final Hearing Results

M39-06/07, PART I	AS
M39-06/07, PART II	AS

Code Change No: **M40-06/07**

Original Proposal

Sections 307.2.3.2 (New); IRC M1411.3.3 (New) (IPC 314.2.3.2)

Proponent: Tony Longino, County of Greenville, SC, representing himself

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

PART I – IMC

Add new text as follows:

307.2.3.2 Appliance, equipment and insulation in pans. Where appliances, equipment or insulation are subject to water damage when auxiliary drain pans fill, such portions of the appliances, equipment and insulation shall be installed above the flood level rim of the pan. Supports located inside of the pan to support the appliance or equipment shall be water resistant and approved.

PART II – IRC

Add new text as follows:

M1411.3.3 Appliance, equipment and insulation in pans. Where appliances, equipment or insulation are subject to water damage when auxiliary drain pans fill, such portions of the appliances, equipment and insulation shall be installed above the flood level rim of the pan. Supports located inside of the pan to support the appliance or equipment shall be water resistant and approved.

Reason: There are no current requirements in the code to prevent appliances, equipment or insulation from being installed inside of the auxiliary drain pan. It has been a long standing and bad practice for some contractors to install up flow furnaces and air handlers on top of plenum boxes resting in the bottom of the drain pan, Therefore [1] reducing the capacity of the drain pan and [2] Allowing the required insulation, interior or exterior, to wick and absorb water as the pan fills. Insulation is not approved for wet locations and will hold water for a long period of time, which can cause mold and bacteria to form or cause the metal to rust and deteriorate.

Cost Impact: Less than \$10 for supports.

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: This change will require components of the appliance and integral insulation material to be installed above the flood rim level of the drain pan. This will prevent degradation of the components and the formation of mold and mildew in insulation that is wetted when the drain pan fills.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Submitted

Committee Reason: This proposal will prevent installations where the insulation can be below the flood rim level of the pan, causing water to wick up in the insulation, resulting in the formation of mold and mildew.

Assembly Action:

None

Final Hearing Results

M40-06/07, Part I	AS
M40-06/07, Part II	AS

Code Change No: M42-06/07

Original Proposal

Sections: 401.1, 501.1, 501.2.1

Proponent: Maureen Traxler, City of Seattle, WA, representing Washington Association of Building Officials

Revise as follows:

401.1 Scope. This chapter shall govern the ventilation of spaces within a building intended to be occupied. ~~This chapter does not govern the requirements for smoke control systems.~~ Mechanical exhaust systems, including exhaust systems serving clothes dryers and cooking appliances; hazardous exhaust systems; dust, stock and refuse conveyor systems; subslab soil exhaust systems; smoke control systems; energy recovery ventilation systems; and other systems specified in Section 502 shall comply with Chapter 5.

501.1 Scope. This chapter shall govern the design, construction and installation of mechanical exhaust systems, including exhaust systems serving clothes dryers and cooking appliances; hazardous exhaust systems; dust, stock and refuse conveyor systems, exhaust systems serving commercial cooking appliances subslab soil exhaust systems; smoke control systems; and energy recovery ventilation systems; and other systems specified in Section 502.

501.2.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.

2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.
3. ~~For Environmental air duct exhaust terminations shall comply with Section 401.4.:~~ 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes.
4. For specific systems see the following sections:
 - 4.1 ~~For~~ Clothes dryer exhaust, see Section 504.4;
 - 4.2 ~~For~~ Kitchen hoods and other kitchen exhaust equipment, see Sections 506.3.12, 506.4 and 506.5;
 - 4.3 ~~For~~ Dust, stock and refuse conveying systems, see Section 511.2; and
 - 4.4 ~~for~~ Subslab soil exhaust systems, see Section 512.4.
 - 4.5 ~~For~~ Smoke control systems, see Section 513.10.3.

Reason: The primary purpose of this proposal is to clarify the scope of chapters 4 and 5 with regard to exhaust equipment. The scope of Chapter 4 is general ventilation; the scope of Chapter 5 is specific mechanical exhaust systems. The proposal clarifies the scope by completing the existing list of exhaust systems currently found in Section 505.1. Currently Section 505.1 lists some, but not all, the types of exhaust equipment regulated in Chapter 5. The same list is added to Section 401.1 to clarify what equipment is beyond the scope of Chapter 4.

Another purpose of this proposal is to build on a proposal from the last code cycle that gathered the provisions for location of exhaust openings in one place. One provision related to ventilation systems is removed from Section 501.2.1 because it is repeated in Section 401. The provision in Section 501.2.1 is replaced with a cross reference to Chapter 4.

The third effect of this proposal is to add cross references to complete the list in Section 501.2.1.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This change reorganizes several sections concerning exhaust systems to make it easier for the user. It adds references to appropriate sections of the code that provide guidance concerning the various types of exhaust systems.

Assembly Action:

None

Final Hearing Results

M42-06/07

AS

Code Change No: **M43-06/07**

Original Proposal

Section 401.4.1

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

401.4.1 Intake openings. Mechanical and gravity outdoor air intake openings shall be located a minimum of 10 feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, chimneys, plumbing vents, streets, alleys, parking lots and loading docks, except as otherwise specified in this code. Where a source of contaminant is located within 10 feet (3048 mm) horizontally of an intake opening, such opening shall be located a minimum of 2 feet (610 mm) below the contaminant source.

~~The exhaust from a bathroom or kitchen~~ Environmental air exhausted from in a residential dwelling shall not be considered to be a hazardous or noxious contaminant.

Reason: This is a fix. The text leaves out dryer exhaust, which would fall within the intent 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 change clarifies that no environmental air exhausted from a residence is considered to be hazardous or noxious.

Assembly Action:

None

Final Hearing Results

M43-06/07

AS

Code Change No: M44-06/07

Original Proposal

Sections 403.1, 403.2, 403.2.1, 403.2.2, 403.3, 403.3.1, 403.3.1.1 (New), 403.3.2.3.1 (New), 403.3.2.3.2 (New), 403.3.2.3.3 (New), 403.3.2.3.4 (New) 403.3.1.2 (New), Table 403.1 (New), 403.3.1.3 (New), 403.3.2.1 (New), 403.3.2.2 (New), 403.3.2.3 (New), 403.3.3, Table 403.3, 403.3.4, 403.4 (New), 403.5 (New), 403.6 (New), 403.7 (New), 404.2, 202 (New)

Proponent: Steven Ferguson, ASHRAE, representing same

1. Revise as follows:

403.1 Ventilation system. Mechanical ventilation shall be provided by a method of supply air and return or exhaust air. The amount of supply air shall be approximately equal to the amount of return and exhaust air. The amount of supply air shall be approximately equal to the amount of return and exhaust air. The system shall not be prohibited from producing negative or positive pressure. The system to convey ventilation air shall be designed and installed in accordance with Chapter 6.

~~Ventilation supply systems shall be designed to deliver the required rate of supply air to the occupied zone within an occupied space. The occupied zone shall have boundaries measured at 3 inches (76 mm) and 72 inches (1829 mm) above the floor and 24 inches (610 mm) from the enclosing walls.~~

403.2 Outdoor air required. The minimum ~~ventilation rate of required~~ outdoor airflow rate shall be determined in accordance with Section 403.3. Ventilation supply systems shall be designed to deliver the required rate of outdoor airflow to the breathing zone within each occupiable space.

Exception: Where the registered design professional demonstrates that an engineered ventilation system design will prevent the maximum concentration of contaminants from exceeding that obtainable by the rate of outdoor air ventilation determined in accordance with Section 403.3, the minimum required rate of outdoor air shall be reduced in accordance with such engineered system design.

403.2.1 Recirculation of air. The outdoor air required by Section 403.3 shall not be recirculated. Air in excess of that required by Section 403.3 shall not be prohibited from being recirculated as a component of supply air to building spaces, except that:

1. Ventilation air shall not be recirculated from one dwelling unit to another or to dissimilar occupancies.
2. Supply air to a swimming pool and associated deck areas shall not be recirculated unless such air is dehumidified to maintain the relative humidity of the area at 60 percent or less. Air from this area shall not be recirculated to other spaces where 10 percent or more of the resulting supply airstream consists of air recirculated from these spaces.
3. Where mechanical exhaust is required by Note b in Table 403.3, recirculation of air from such spaces shall be prohibited. All air supplied to such spaces shall be exhausted, including any air in excess of that required by Table 403.3.
4. Where mechanical exhaust is required by Note h in Table 403.3, mechanical exhaust is required and recirculation is prohibited where 10% or more of the resulting supply airstream consists of air recirculated from these spaces.

403.2.2 Transfer air. Except where recirculation from such spaces is prohibited by Table 403.3, air transferred from occupiable ~~occupied~~ spaces is not prohibited from serving as makeup air for required exhaust systems in such spaces as kitchens, baths, toilet rooms, elevators and smoking lounges. The amount of transfer air and exhaust air shall be sufficient to provide the flow rates as specified in Sections 403.3 and 403.3.4. The required outdoor airflow rates specified in Table 403.3 shall be introduced directly into such spaces or into the occupied spaces from which air is transferred or a combination of both.

403.3 Ventilation Outdoor airflow rate. Ventilation systems shall be designed to have the capacity to supply the minimum outdoor airflow rate determined in accordance with this section. ~~Table 403.3 based on the occupancy of the space and the occupant load or other parameter as stated therein.~~ The occupant load utilized for design of the ventilation system shall not be less than the number determined from the estimated maximum occupant load rate indicated in Table 403.3. Ventilation rates for occupancies not represented in Table 403.3 shall be those for a listed occupancy classification that is most similar in terms of occupant density, activities and building construction; or, shall be determined by an approved engineering analysis. The ventilation system shall be designed to supply the required rate of ventilation air continuously during the period the building is occupied, except as otherwise stated in other provisions of the code.

With the exception of smoking lounges, the ventilation rates in Table 403.3 are based on the absence of smoking in occupiable spaces. When smoking is anticipated in a space other than a smoking lounge, the ventilation system serving the space shall be designed to provide ventilation over and above that required by Table 403.3 in accordance with accepted engineering practice.

Exception: The occupant load is not required to be determined, based on the estimated maximum occupant load rate indicated in Table 403.3 where approved statistical data document the accuracy of an alternate anticipated occupant density.

2. Delete and substitute as follows:

403.3.1 System operation. ~~The minimum flow rate of outdoor air that the ventilation system must be capable of supplying during its operation shall be permitted to be based on the rate per person indicated in Table 403.3 and the actual number of occupants present.~~

403.3.1 Zone outdoor airflow. The minimum outdoor airflow required to be supplied to each zone shall be determined as function of occupancy classification and space air distribution effectiveness in accordance with Section 403.3.1.1 through 403.3.1.3

3. Add new text as follows:

403.3.1.1 Breathing zone outdoor airflow. The outdoor airflow rate required in the breathing zone (V_{bz}) of the occupiable space or spaces in a zone shall be determined in accordance with Equation 4-1.

$$V_{bz} = R_p P_z + R_a A_z \quad (\text{Equation 4-1})$$

Where:

A_z = zone floor area: the net occupiable floor area of the space or spaces in the zone.

P_z = zone population: the number of people in the space or spaces in the zone.

R_p = people outdoor air rate: the outdoor airflow rate required per person from Table 403.3

R_a = area outdoor air rate: the outdoor airflow rate required per unit area from Table 403.3

403.3.1.2 Zone air distribution effectiveness. The *zone air distribution effectiveness* (E_z) shall be determined using Table 403.1.

**TABLE 403.1
ZONE AIR DISTRIBUTION EFFECTIVENESS**

<u>Air Distribution Configuration</u>	<u>E_z</u>
<u>Ceiling or floor supply of <i>cool air</i></u>	<u>1.0^f</u>
<u>Ceiling or floor supply of <i>warm air</i> and floor return</u>	<u>1.0</u>
<u>Ceiling supply of <i>warm air</i> and ceiling return.</u>	<u>0.8^g</u>
<u>Floor supply of <i>warm air</i> and ceiling return</u>	<u>0.7</u>
<u>Makeup air drawn in on the opposite side of the room from the exhaust and/or return</u>	<u>0.8</u>
<u>Makeup air drawn in near to the exhaust and/or return location</u>	<u>0.5</u>
a. " <i>Cool air</i> " is air cooler than space temperature. b. " <i>Warm air</i> " is air warmer than space temperature. c. "Ceiling" includes any point above the <i>breathing zone</i> . d. "Floor" includes any point below the <i>breathing zone</i> . e. " <i>Makeup air</i> " is air supplied or transferred. to a zone to replace air removed from the zone by exhaust or return systems.. f. <i>Zone air distribution effectiveness</i> of 1.2 shall be permitted for systems with floor supply of <i>cool air</i> and ceiling return, provided low-velocity displacement ventilation achieves unidirectional flow and thermal stratification. g. <i>Zone air distribution effectiveness</i> of 1.0 shall be permitted for systems with ceiling supply of <i>warm air</i> , provided supply air is less than 15°F (8°C) above space temperature and provided that the 150 fpm (0.8 m/s) supply air jet reaches to within 4.5 ft (1.4 m) of floor level.	

403.3.1.3 Zone outdoor airflow. The *zone outdoor airflow rate* (V_{oz}), shall be determined in accordance with Equation 4-2.

$$V_{oz} = V_{bz}/E_z \quad \text{(Equation 4-2)}$$

4. Delete and substitute as follows:

403.3.2 Common ventilation system. Where spaces having different ventilation rate requirements are served by a common ventilation system, the ratio of outdoor air to total supply air for the system shall be determined based on the space having the largest outdoor air requirement or shall be determined in accordance with the following formula:
 $Y = X/(1 + X - Z)$ (Equation 4-1)

Where

$Y = V_{ot}/V_{st}$ = Corrected fraction of outdoor air in system supply.

$X = V_{on}/V_{st}$ = Uncorrected fraction of outdoor air in system supply

$Z = V_{oc}/V_{sc}$ = Fraction of outdoor air in critical space. The critical space is that space with the greatest required fraction of outdoor air in the supply to this space.

V_{ot} = Corrected total outdoor airflow rate.

V_{st} = Total supply flow rate, i.e., the sum of all supply for all branches of the system.

V_{on} = Sum of outdoor airflow rates for all branches on system.

V_{oc} = Outdoor airflow rate required in critical spaces.

V_{sc} = Supply flow rate in critical space.

403.3.2 System outdoor airflow. The outdoor air required to be supplied by each ventilation system shall be determined in accordance with Section 403.3.2.1 through 403.2.3 as a function of system type and zone outdoor airflow rates.

5. Add new text as follows:

403.3.2.1 Single zone systems. When one air handler supplies a mixture of outdoor air and recirculated return air to only one zone, the system *outdoor air intake flow rate* (V_{ot}) shall be determined in accordance with Equation 4-3.

$$V_{ot} = V_{oz} \quad \text{(Equation 4-3)}$$

403.3.2.2 100% outdoor air systems. When one air handler supplies only outdoor air to one or more zones, the system outdoor air intake flow rate (Vot) shall be determined using Equation 4-4.

$$Vot = \sum_{\text{all zones}} Voz \quad (\text{Equation 4-4})$$

403.3.2.3 Multiple zone recirculating systems. When one air handler supplies a mixture of outdoor air and recirculated return air to more than one zone, the system outdoor air intake flow rate (Vot) shall be determined in accordance with Sections 403.3.2.3.1 through 403.3.2.3.5.

403.3.2.3.1 Primary outdoor air fraction. The primary outdoor air fraction (Zp) shall be determined for each zone in accordance with Equation 4-5.

$$Zp = Voz/Vpz \quad (\text{Equation 4-5})$$

Where:

Vpz = primary airflow: The airflow rate supplied to the zone from the air-handling unit at which the outdoor air intake is located. It includes outdoor intake air and recirculated air from that air-handling unit but does not include air transferred or air recirculated to the zone by other means. For design purposes, Vpz shall be the zone design primary airflow rate, except for zones with variable air volume supply Vpz shall be the lowest expected primary airflow rate to the zone when it is fully occupied.

403.3.2.3.2 System ventilation efficiency. The system ventilation efficiency (Ev) shall be determined using Table 403-2 or Appendix A of ASHRAE Standard 62.1.

TABLE 403.2
SYSTEM VENTILATION EFFICIENCY

$Max(Zp)$	Ev
≤ 0.15	1.0
≤ 0.25	0.9
≤ 0.35	0.8
≤ 0.45	0.7
≤ 0.55	0.6
≤ 0.65	0.5
≤ 0.75	0.4
> 0.75	0.3

Notes for Table 8

- $Max(Zp)$ is the largest value of Zp calculated using Equation 4-5 among all the zones served by the system.
- Interpolating between table values shall be permitted.

403.3.2.3.3 Uncorrected outdoor air intake. The uncorrected outdoor air intake flow rate (Vou) shall be determined in accordance with Equation 4-7.

$$Vou = D \sum_{\text{all zones}} RpPz + \sum_{\text{all zones}} RaAz \quad (\text{Equation 4-7})$$

Where:

D = occupant diversity: the ratio of the system population to the sum of the zone populations, determined in accordance with Equation 4-8.

$$D = Ps / \sum_{\text{all zones}} Pz \quad (\text{Equation 4-8})$$

Where:

Ps = system population: The total number of occupants in the area served by the system. For design purposes, Ps shall be the maximum number of occupants expected to be concurrently in all zones served by the system.

403.3.2.3.4 Outdoor air intake flow rate. The outdoor air intake flow rate (Vot) shall be determined in accordance with Equation 4-9.

$$Vot = Vou/Ev \quad (\text{Equation 4-9})$$

6. Revise table as follows:

**TABLE 403.3
REQUIRED OUTDOOR VENTILATION AIR
MINIMUM VENTILATION RATES**

OCCUPANCY CLASSIFICATION	ESTIMATED MAXIMUM OCCUPANT LOAD, PERSONS PER 1,000 SQUARE FEET a	OUTDOOR AIR (Cubic feet per Minute (cfm) Per person) UNLESS NOTED e	People Outdoor Airflow Rate in Breathing Zone Rp cfm/person	Area Outdoor Airflow Rate in Breathing Zone Ra cfm/ft ² a	Default Occupant Density #/1000 ft ² a	Exhaust Airflow Rate cfm/ft ² a
Correctional facilities						
Cells						
without plumbing fixtures	20	20	5	0.12	25	-
with plumbing fixtures ^{g,hg}	20	20	5	0.12	25	1.00
Dining halls (See Food and Beverage Service)	400	45	-	-	-	-
Guard stations	40	45	5	0.06	15	-
Day room	=	=	5	0.06	30	-
Booking/waiting	=	=	7.5	0.06	50	-
Dry Cleaners, laundries						
Coin-operated dry cleaner	20		15	-	20	-
Coin-operated laundries	20	45	7.5	0.06	20	-
Commercial dry cleaner	30	30	30	-	30	-
Commercial laundry	40	25	25	-	10	-
Storage, pick up	30	35	7.5	.12	30	-
Education						
Auditoriums	150	45	5	0.06	150	-
Classrooms	50	45	below	below	below	-
Corridors (See Public Spaces)	-	0.10 /ft ²	-	-	-	-
Laboratories	30	20	below	below	below	-
Libraries-Media center	20	45	10	0.12	25	-
Sports locker rooms ^{hg}	-	0.50 /ft ²	-	-	-	0.50
Music rooms/Music/theater/dance	50	45	10	0.06	35	-
Smoking lounges ^{hg}	70	60	60	-	70	-
Training shops	30	20	-	-	-	-
Daycare (through age 4)			10	0.18	25	-
Classrooms (ages 5-8)			10	0.12	25	-
Classrooms (age 9 plus)			10	0.12	35	-
Lecture classroom			7.5	0.06	65	-
Lecture hall (fixed seats)			7.5	0.06	150	-
Art classroom ^{hg}			10	0.18	20	0.70
Science laboratories ^{hg}			10	0.18	25	1.00
Wood/metal shops ^{hg}			10	0.18	20	0.50
Computer lab			10	0.12	25	-
Multi-use assembly			7.5	0.06	100	-
Locker/dressing rooms ^{hg}			-	-	-	0.25
Food and beverage service						
Bars, cocktail lounges	400	30	7.5	0.18	100	-
Cafeteria, fast food	400	20	7.5	0.18	100	-
Dining rooms	70	20	7.5	0.18	70	-
Kitchens (cooking) ^{f,gb}	20	45	-	-	-	0.70
Hospitals, nursing and convalescent homes						
Autopsy rooms ^b	-	0.50 /ft ²	-	-	-	0.50
Medical procedure rooms	20	45	15	-	20	-
Operating rooms	20	30	30	-	20	-
Patient rooms	40	25	25	-	10	-
Physical therapy	20	45	15	-	20	-
Recovery and ICU	20	45	15	-	20	-
Hotels, motels, resorts and dormitories						
Assembly rooms Multi-purpose assembly	420	45	5	0.06	5	-
Bathrooms/Toilet – private ^{g,hg}	-	35 /room	-	-	-	25/50 ^f
Bedroom/living room	50	20	5	0.06	10	-
Conference/meeting rooms	20	45	5	0.06	20	-
Dormitory sleeping areas	420	30	7.5	0.18	120	-
Gambling casinos	-	30 /room	-	-	-	-
Living rooms	30	45	7.5	0.06	30	-
Lobbies/pre-function						

OCCUPANCY CLASSIFICATION	ESTIMATED MAXIMUM OCCUPANT LOAD, PERSONS PER 1,000 SQUARE FEET a	OUTDOOR AIR (Cubic feet per Minute (cfm) Per person) UNLESS NOTED e	People Outdoor Airflow Rate in Breathing Zone Rp cfm/person	Area Outdoor Airflow Rate in Breathing Zone Ra cfm/ft2 ^a	Default Occupant Density #/1000 ft2 ^a	Exhaust Airflow Rate cfm/ft2 ^a
Offices						
Conference rooms	50	20	5	0.06	50	=
Office spaces	7	20	5	0.06	5	=
Reception areas	60	15	5	0.06	30	=
Telecommunication centers and data entry	60	20	=	=	=	=
Telephone/data entry	=	=	5	0.06	60	=
Main entry lobbies	=	=	5	0.06	10	=
Private dwellings, single and Multiple						
Garages, common for multiple units ^b	—	1.5 cfm/ft2	=	=	=	0.75
Garages, separate for each dwelling ^b	—	100 cfm per car	=	=	=	100 cfm per car
Kitchens ^{gb}	—	100 cfm intermit. or 25 cfm contin.	=	=	=	25/100 ^f
Living areas ^c	Based upon number of bedrooms; first bedrm 2; each additional bedrm: 1	0.35 air changes per hour or 15 cfm per person, whichever is greater	0.35 ACH but not less than 15 cfm/p	=	Based upon number of bedrooms; first bedrm 2; each additional bedrm: 1	=
Toilet rooms and bathrooms ^{g,hg}	—	mech. exhaust capacity of 50 cfm intermittent or 20 cfm contin.	=	=	=	20/50 ^f
Public spaces						
Corridors and utilities	—	0.05 /ft2	=	0.06	=	=
Elevator car ^g	—	1.00 /ft2	=	=	=	1.0
Locker rooms ^{hg}	—	0.5 /ft2	=	=	=	=
Shower room (per shower head) ^{g,hg}	—	50 cfm intermediate or 20 cfm contin. 60	=	=	=	50/20 ^f
Smoking lounges ^{b,g}	70		60	=	70	=
Toilet rooms – public ^{g,hg}	—	75 /w.c. or urinal	=	=	=	50/70 ^e
Places of religious worship						
Courtrooms			5	0.06	120	
Legislative chambers			5	0.06	70	
Libraries			5	0.06	50	
Museums (children's)			5	0.12	10	
Museums/galleries			7.5	0.12	40	
			7.5	0.06	40	
Retail stores, sales floors and Showroom floors						
Basement and street Sales (except as below)	—	0.30 /ft2	7.5	0.12	15	=
	—	0.20 /ft2	=	=	=	0.25
Dressing rooms	—	0.20 /ft2	7.5	0.06	40	=

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

OCCUPANCY CLASSIFICATION	ESTIMATED MAXIMUM OCCUPANT LOAD, PERSONS PER 1,000 SQUARE FEET a	OUTDOOR AIR (Cubic feet per Minute (cfm) Per person) UNLESS NOTED e	People Outdoor Airflow Rate in Breathing Zone Rp cfm/person	Area Outdoor Airflow Rate in Breathing Zone Ra cfm/ft²a	Default Occupant Density #/1000 ft²a	Exhaust Airflow Rate cfm/ft²a
Malls and arcades Mall common areas	—	0.15 /ft ²	—	0.12	—	—
Shipping and receiving	70	60	60	—	70	—
Smoking lounges ^{b,9}	—	0.15 /ft ²	—	0.12	—	—
Storage rooms	—	0.20 /ft ²	—	—	—	—
Upper floors	—	0.05 /ft ²	—	—	—	—
Warehouses (See Storage)	—	—	—	—	—	—
Specialty shops	—	—	—	—	—	—
Automotive motor-fuel dispensing stations ^b	25	45	7.5	0.06	25	1.50
Barber	25	25	20	0.12	25	0.50
Beauty and nail salons ^{b,i}	—	0.30 /ft ²	—	—	—	—
Clothiers, furniture	—	2.0 /ft ²	—	—	—	2.0
Embalming room ^b	8	45	—	—	—	—
Florists	8	45	—	—	—	—
Hardware, drugs, fabrics	—	50 cfm	—	—	—	—
Nail salon ^{b,i}	—	intermediate or 20 cfm contin. per station	—	—	—	—
		4.0 /ft ²	—	—	—	—
		45	7.5	0.18	10	0.90
Pet shops (animal areas) ^b	20	45	7.5	0.06	8	—
Reducing salons	8	—	—	—	—	—
Supermarkets	—	—	—	—	—	—
Sports and amusement	—	—	—	—	—	—
Balrooms and discos	400	25	20	0.06	100	—
Dance floors	70	25	10	0.12	40	—
Bowling alleys (seating areas)	70	25	7.5	0.18	20	—
Game rooms	—	0.50 /ft ²	—	0.30	—	0.50
arcades	—	—	—	—	—	—
Ice arenas without combustion engines	—	—	—	—	—	—
Playing floors (gymnasiums) Gym,	30	20	—	0.30	—	—
stadium, arena (play area)	150	45	7.5	0.06	150	—
Spectator areas	—	0.50 /ft ²	—	0.48	—	—
Swimming pools (pool and deck area)	—	—	20	0.06	40	—
Health club/aerobics room	—	—	20	0.06	10	—
Health club/weight room	—	—	—	—	—	—
Storage	—	—	—	—	—	—
Repair garages, enclosed parking garages ^{b,d}	—	1.5 /ft ²	—	—	—	0.75
Warehouses	—	0.05 /ft ²	—	0.06	—	—
Theaters	—	—	—	—	—	—
Auditoriums (See Education)	150	45	—	—	—	—
Lobbies	150	20	5	0.06	150	—
Stages, studios	70	45	10	0.06	70	—
Ticket booths	60	20	5	0.06	60	—
Transportation	—	—	—	—	—	—
Platforms	400	45	7.5	0.06	100	—
Vehicles	150	45	—	—	—	—
Waiting rooms	400	45	7.5	0.06	100	—
Transportation waiting	—	—	—	—	—	—
Workrooms	—	—	—	—	—	—
Bank vaults/safe deposit	5	45	5	0.06	5	—
Darkrooms	—	0.50 /ft ²	—	—	—	1.00
Duplicating	—	0.50 /ft ²	—	—	—	—
Copy, printing rooms	—	—	5	0.06	4	0.50
Meat processing ^p	40	45	15	—	10	—
Pharmacy (prep. area)	20	45	5	0.18	10	—
Photo studios	40	45	5	0.12	10	—
Computer (without printing)	—	—	5	0.06	4	—

For SI: 1 cubic foot per minute = 0.0004719 m³/s, 1 ton = 908 kg,
 1 cubic foot per minute per square foot = 0.00508 m³/(s · m²),
 C = [(F) -32]/1.8, 1 square foot = 0.0929 m².

a. Based upon net occupiable floor area

- b. Mechanical exhaust required and the recirculation of air from such spaces ~~as permitted by Section 403.2.1~~ is prohibited (see Section 403.2.1, Items 1 and 3).
- c. Spaces unheated or maintained below 50 F are not covered by these requirements unless the occupancy is continuous.
- d. Ventilation systems in enclosed parking garages shall comply with Section 404.
- e. ~~Where the ventilation rate is expressed in cfm/ft², such rate is based upon cubic feet per minute per square foot of the floor area being ventilated.~~
- f. ~~The sum of the outdoor and transfer air from adjacent spaces shall be sufficient to provide an exhaust rate of not less than 1.5 cfm/ft².~~
- g. ~~Transfer air permitted in accordance with Section 403.2.2.~~
- e. Rates are per water closet or urinal. The higher rate shall be provided where periods of heavy use are expected to occur, e.g., toilets in theaters, schools, and sports facilities. The lower rate shall be permitted where periods of heavy use are not expected.
- f. Rates are per room unless otherwise indicated. The higher rate shall be provided where the exhaust system is designed to operate intermittently. The lower rate shall be permitted where the exhaust system is designed to operate continuously during normal hours of use.
- hg. Mechanical exhaust is required and recirculation is prohibited except that recirculation shall be permitted where the resulting supply airstream consists of not more than 10 percent air recirculated from these spaces (see Section 403.2.1, Items 2 and 4).
- i. For nail salons, the required exhaust shall include ventilation tables or other systems that shall capture the contaminants and odors at their source and are capable of exhausting a minimum of 50 cfm per station.

7. Add new text as follows:

403.4 Exhaust Ventilation. Exhaust airflow rate shall be provided in accordance with the requirements in Table 403.3. Exhaust makeup air shall be permitted to be any combination of outdoor air, recirculated air, and transfer air, except as limited in accordance with Section 403.2.

8. Revise as follows:

~~403.3.1~~ **403.5 System operation.** The minimum flow rate of outdoor air that the ventilation system must be capable of supplying during its operation shall be permitted to be based on the rate per person indicated in Table 403.3 and the actual number of occupants present.

~~403.3.3~~ **403.6 Variable air volume system control.** Variable air volume air distribution systems, other than those designed to supply only 100-percent outdoor air, shall be provided with controls to regulate the flow of outdoor air. Such control system shall be designed to maintain the flow rate of outdoor air at a rate of not less than that required by Section 403.3 over the entire range of supply air operating rates.

~~403.3.4~~ **403.7 Balancing.** The ventilation air distribution system shall be provided with means to adjust the system to achieve at least the minimum ventilation airflow rate as required by Sections 403.3 and 403.4. Ventilation systems shall be balanced by an approved method. Such balancing shall verify that the ventilation system is capable of supplying and exhausting the airflow rates required by Sections 403.3 and 403.4.

404.2 Minimum ventilation. Automatic operation of the system shall not reduce the ventilation airflow rate below 0.05 cfm per square foot (0.00025m³/s • m²) of the floor area and the system shall be capable of producing a ventilation airflow rate of 4-5 0.75 cfm per square foot (0.0076m³/s • m²) of floor area.

9. Add new text as follows:

SECTION 202 GENERAL DEFINITIONS

BREATHING ZONE. The region within an occupied space between planes 3 and 72 in. (75 and 1800 mm) above the floor and more than 2 ft (600 mm) from the walls of the space or from fixed air-conditioning equipment.

NET OCCUPIABLE FLOOR AREA. The floor area of an occupiable space defined by the inside surfaces of its walls but excluding shafts, column enclosures, and other permanently enclosed, inaccessible, and unoccupiable areas. Obstructions in the space such as furnishings, display or storage racks, and other obstructions, whether temporary or permanent, are not deducted from the space area.

OCCUPIABLE SPACE. An enclosed space intended for human activities, excluding those spaces intended primarily for other purposes, such as storage rooms and equipment rooms, that are only intended to be occupied occasionally and for short periods of time.

ZONE. One occupiable space or several occupiable spaces with similar occupancy classification (see Table 403.3), occupant density, zone air distribution effectiveness, and zone primary airflow rate per unit area.

Reason: To bring the IMC more in line with contemporary ventilation and air quality criteria that are based on research conducted since the ventilation provisions of the IMC were revised and the consensus achieved under the ANSI Standards process.

The current ventilation criteria in the IMC are essentially based on ASHRAE Standard 62-1989. Research has been conducted since then our knowledge of indoor air quality and ventilation has evolved. In response to these actions ASHRAE has enhanced Standard 62, upon which the IMC is based. This code change would make the IMC consistent with ventilation rate procedures defined in ANSI/ASHRAE Standard 62.1-2004 and consistent with the 2006 Uniform Mechanical Code.

ANSI/ASHRAE Standard 62.1-2004 is a consensus national standard. Standard 62.1 ventilation rate calculation procedure has been substantially updated in the 2004 version to reflect the latest research on building indoor air quality. The procedure now requires designers to account for pollutant sources other than occupants, such as building materials and furnishings, and to account for the efficiency of the ventilation system to deliver outdoor air to the breathing zone. Ventilation systems designed using the new procedures will result in slightly lower outdoor rates for most occupancies compared to the current code, reducing first costs and energy costs.

Bibliography:

ANSI/ASHRAE Standard 62.1-2004 Ventilation for Acceptable Indoor Air Quality, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Atlanta, GA

Cost Impact: The code change proposal will not increase the cost of construction, and in some instances will reduce the first cost of construction. Engineering design effort and jurisdictional plan review processes will not be materially affected due to the availability and greater specificity of compliance tools.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposal updates the outdoor air ventilation requirements to reflect the latest technology and to be consistent with the requirements of ASHRAE 62.1-2004. It updates the ventilation rates in Table 403.3, adds a table for system efficiency and replaces the previous common ventilation system requirements with single zone and multiple zone recirculation system requirements.

Assembly Action:

None

Final Hearing Results

M44-06/07

AS

Code Change No: **M48-06/07**

Original Proposal

Table 403.3

Proponent: Robert Adkins, Prince William County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise table as follows:

**TABLE 403.3
REQUIRED OUTDOOR VENTILATION AIR**

OCCUPANCY CLASSIFICATION	ESTIMATED MAXIMUM OCCUPANT LOAD, PERSONS PER 1,000 SQUARE FEET ^a	OUTDOOR AIR [Cubic feet per minute (cfm) per person] UNLESS NOTED ^e
Storage Repair garages ^b , enclosed parking garages ^d Warehouses	— —	1.5 cfm/ft ² 0.05 cfm/ft

For SI: 1 cubic foot per minute = 0.0004719m³/s, 1 ton = 908 kg,

1 cubic foot per minute per square foot = 0.00508m³/(s • m²),

°C = [(°F) -32]/1.8, 1 square foot = 0.0929m².

a. (No change to current text))

b. Mechanical exhaust required and the recirculation of air from such spaces as permitted by Section 403.2.1 is prohibited (see Section 403.2.1, Items 1 and 3).

c through l (No change to current text))

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

Reason: It is not recommended to permit recirculated air from a repair garage. Many dangerous contaminants exist in a repair garage atmosphere that are unwanted anywhere else in a structure. Many repair garages are located next to showrooms, offices or convenience stores.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Prohibiting the recirculation of exhaust air from repair garages will increase the safety of other occupancies, such as showrooms and offices, by eliminating the possibility of circulating harmful vapors to such occupancies.

Assembly Action:

None

Final Hearing Results

M48-06/07

AS

Code Change No: M53-06/07

Original Proposal

Section: 501.2.1

Proponent: Mark Riley, City of Troy, MI, representing himself

Revise as follows:

501.2.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.
2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.
3. For environmental air duct exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes.

Exception: Exhaust from bathrooms and kitchens in residential dwellings complying with Section 401.4.1.

4. For specific systems: For clothes dryer exhaust, see Section 504.4; for kitchen hoods, see Section 506.3; for dust, stock and refuse conveying systems, see Section 511.2; and for subslab soil exhaust systems, see Section 512.4.

Reason: This code change proposal will eliminate a code conflict with Sections 401.4.1 and 501.2.1 Item #3.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This change correlates the bathroom and kitchen exhaust requirements with those in Section 401.4.1.

Assembly Action:

None

Final Hearing Results

M53-06/07

AS

Code Change No: M54-06/07

Original Proposal

Section: 501.3

Proponent: Ron Nickson, National Multi Housing Council/National Apartment Association, representing same

Revise as follows:

501.3 Pressure equalization. Mechanical exhaust systems shall be sized to remove the quantity of air required by this chapter to be exhausted. The system shall operate when air is required to be exhausted. Where mechanical exhaust is required in a room or space in other than occupancies in R-3 and dwelling units in R-2, such space shall be maintained with a neutral or negative pressure. If a greater quantity of air is supplied by a mechanical ventilating supply system than is removed by a mechanical exhaust for a room, adequate means shall be provided for the natural or mechanical exhaust of the excess air supplied. If only a mechanical exhaust system is installed for a room or if a greater quantity of air is removed by a mechanical exhaust system than is supplied by a mechanical ventilating supply system for a room, adequate make-up air consisting of supply air, transfer air or outdoor air shall be provided to satisfy the deficiency. The calculated building infiltration rate shall not be utilized to satisfy the requirements of this section.

Reason: To expand the exception for not requiring mechanical ventilation currently allowed for R-3 to also be applicable to the dwelling unit portions of R-2. The mechanical systems in the R-2 individual dwellings are basically the same as those for R-3 and the systems are not designed for, nor does the code require that they introduce outside air into the 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 exemption from pressure equalization requirements for R-2 occupancies should be the same as that for R-3 occupancies.

Assembly Action:**None**

Final Hearing Results

M54-06/07

AS

Code Change No: M57-06/07

Original Proposal

Section: 504.2

Proponent: Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., representing In-O-Vate Technology, Inc.

Revise as follows:

504.2 Exhaust penetrations. Where a clothes dryer exhaust duct penetrates a wall or ceiling membrane, the annular space shall be sealed with noncombustible material, approved fire caulking, or a noncombustible dryer exhaust duct wall receptacle. Ducts that exhaust clothes dryers shall not penetrate or be located within any fireblocking,

drafstopping or any wall, floor/ceiling or other assembly required by the International Building Code to be fire-resistance rated, unless such duct is constructed of galvanized steel or aluminum of the thickness specified in Section 603.4 and the fire-resistance rating is maintained in accordance with the International Building Code. Fire dampers, combination fire/smoke dampers and any similar devices that will obstruct the exhaust flow, shall be prohibited in clothes dryer exhaust ducts.

Reason: This modification merely clarifies that the penetration of a dryer exhaust duct must be protected. While this is the intent of the section, it is never clearly stated. The protection of the annular space can be by a noncombustible seal, fire caulking or a metal dryer receptacle. These penetrations must be properly protected since they are located near a fuel fire appliance or electric heating appliance.

The CPSC identified 15,600 fires associated with dryers in a single year. Studies have shown that metal ducts protect the structure from the spread of fire. Additionally, noncombustible material or fire caulk around the annular space prevents the fire from spreading into the wall or ceiling cavity. The same can be accomplished with manufactured noncombustible receptacles. The noncombustible receptacles also allow for the proper storage and recoil of the transition flexible duct to a metal duct.

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 adds a prescriptive requirements for protecting the annular space where a clothes dryer exhaust duct penetrates a wall or ceiling. This will improve the safety of operating clothes dryers with such penetrations.

Assembly Action:

None

Final Hearing Results

M57-06/07

AS

Code Change No: M58-06/07

Original Proposal

Section: 504.5

Proponent: James Ranfone, American Gas Association, representing same

Revise as follows:

504.5 Makeup air. Installations exhausting more than 200 cfm (0.09 m3/s) shall be provided with makeup air. Where a closet is designed for the installation of a clothes dryer, an opening having an area of not less than 100 square inches (645 mm2) for makeup air shall be provided in the closet enclosure, or makeup air shall be provided by other approved means.

Reason: The addition of "or makeup air shall be provided by other approved means" will coincide with the exact wording from the IFGC to ensure continuity of both codes

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This change allows the designer some flexibility as to how the required makeup air is provided. This language is consistent with the IFGC.

Assembly Action:

None

Final Hearing Results

M58-06/07

AS

Code Change No: M62-06/07

Original Proposal

Sections: 504.6.1; IRC M1502.6 (IFGC 614.6.1)

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

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

PART I – IMC**Revise as follows:**

504.6.1 Maximum length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location to the outlet terminal. The maximum length of the duct shall be reduced 21/2 feet (762 mm) for each 45 degree (0.79 rad) bend and 5 feet (1524 mm) for each 90 degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exception: Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for such dryer are provided to the code official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions. Where exhaust ducts are installed in concealed locations, the developed length of the exhaust duct system shall be indicated by permanent labels or tags installed in an observable location.

PART II – IRC**Revise as follows:**

M1502.6 Duct length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location to the wall or roof termination. The maximum length of the duct shall be reduced 2.5 feet (762 mm) for each 45-degree (0.8 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exceptions:

1. Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for the dryer are provided to the building official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions. Where exhaust ducts are installed in concealed locations, the developed length of the exhaust duct system shall be indicated by permanent labels or tags installed in an observable location.
2. Where large-radius 45-degree (0.8 rad) and 90-degree (1.6 rad) bends are installed, determination of the equivalent length of clothes dryer exhaust duct for each bend by engineering calculation in accordance with the ASHRAE Fundamentals Handbook shall be permitted.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

Reason: This exception creates a problem when dryers are moved from one location to another. The length of concealed ductwork cannot be verified. Without knowing the developed length of the exhaust duct, a different dryer installed may not work properly and as a result, may possibly cause a fire. If the system is properly identified, the right dryer can be matched to the correct exhaust system.

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

Public Hearing Results

PART I – IMC

Committee Action:

Approved as Submitted

Committee Reason: This change is needed to require a warning sign for new occupants that the existing dryers exhaust duct may be of such length that their clothes dryer will not operate properly when connected to the duct.

Assembly Action:

None

PART II – IRC

Committee Action:

Disapproved

Committee Reason: The term "observable location" is vague and unenforceable. The homeowner can remove or obscure the labels after the certificate of occupancy is issued.

Assembly Action:

None

Final Hearing Results

M62-06/07, Part I	AS
M62-06/07, Part II	D

Code Change No: M64-06/07

Original Proposal

Sections: 505.1; IRC M1503.2

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

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

PART I – IMC

Revise as follows:

505.1 Domestic systems. Where domestic range hoods and domestic appliances equipped with downdraft exhaust are located within dwelling units, such hoods and appliances shall discharge to the outdoors through sheet metal ducts constructed of galvanized steel, stainless steel, aluminum or copper. Such ducts shall have smooth inner walls and shall be air tight and equipped with a backdraft damper.

Exceptions:

1. Where installed in accordance with the manufacturer’s installation instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled ductless range hoods shall not be required to discharge to the outdoors.

2. Ducts for domestic kitchen cooking appliances equipped with downdraft exhaust systems shall be permitted to be constructed of Schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:
 - 2.1. The duct shall be installed under a concrete slab poured on grade.
 - 2.2. The underfloor trench in which the duct is installed shall be completely backfilled with sand or gravel.
 - 2.3. The PVC duct shall extend not greater than 1 inch (25 mm) above the indoor concrete floor surface.
 - 2.4. The PVC duct shall extend not greater than 1 inch (25 mm) above grade outside of the building.
 - 2.5. The PVC ducts shall be solvent cemented.
 - 2.6. The PVC ducts and fittings comply with Section 603.8.3.

PART II – IRC

Revise as follows:

M1503.2 Duct material. Single-wall ducts serving range hoods shall be constructed of galvanized steel, stainless steel or copper.

Exception: Ducts for domestic kitchen cooking appliances equipped with down-draft exhaust systems shall be permitted to be constructed of schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:

1. The duct shall be installed under a concrete slab poured on grade; and
2. The underfloor trench in which the duct is installed shall be completely backfilled with sand or gravel; and
3. The PVC duct shall extend not more than 1 inch (25mm) above the indoor concrete floor surface; and
4. The PVC duct shall extend not more than 1 inch (25mm) above grade outside of the building; and
5. The PVC ducts shall be solvent cemented.
6. The PVC ducts and fittings comply with Section M1601.1.2.

Reason: Current text is lacking the appropriate standards PVC duct must conform with. Currently the only standard criterion the IMC provides is the external loading requirements of ASTM D 2412. This application is just as important as plumbing piping if not more so. It is not permissible to mix and match pipe and fittings without the appropriate transition fittings. The IMC currently contains no such criteria.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: This change adds guidance to the section containing requirements for PVC materials and joints for domestic downdraft exhaust systems.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Modified

Modify the proposal as follows:

M1503.2 Duct material. Single-wall ducts serving range hoods shall be constructed of galvanized steel, stainless steel or copper.

Exception: Ducts for domestic kitchen cooking appliances equipped with down-draft exhaust systems shall be permitted to be constructed of schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:

1. The duct shall be installed under a concrete slab poured on grade; and
2. The underfloor trench in which the duct is installed shall be completely backfilled with sand or gravel; and
3. The PVC duct shall extend not more than 1 inch (25mm) above the indoor concrete floor surface; and
4. The PVC duct shall extend not more than 1 inch (25mm) above grade outside of the building; and
5. The PVC ducts shall be solvent cemented.
6. ~~The PVC ducts and fittings comply with Section M1601.1.2.~~

Committee Reason: The proposal adds fittings to the section to insure the same materials are used for both pipe and fittings. The modification deletes the reference Section M1601.1.2 because that section is for underground air ducts and not appropriate for kitchen exhaust ducts..

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:

Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., representing General Plastics, requests Approval as Modified by this Public Comment of Part I.

Modify proposal as follows:

505.1 Domestic systems. Where domestic range hoods and domestic appliances equipped with downdraft exhaust are located within dwelling units, such hoods and appliances shall discharge to the outdoors through sheet metal ducts constructed of galvanized steel, stainless steel, aluminum or copper. Such ducts shall have smooth inner walls and shall be air tight and equipped with a backdraft damper.

Exceptions:

1. Where installed in accordance with the manufacturer's installation instructions and where mechanical or natural ventilation is otherwise provided in accordance with Chapter 4, listed and labeled ductless range hoods shall not be required to discharge to the outdoors.
2. Ducts for domestic kitchen cooking appliances equipped with downdraft exhaust systems shall be permitted to be constructed of Schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:
 - 2.1. The duct shall be installed under a concrete slab poured on grade.
 - 2.2. The underfloor trench in which the duct is installed shall be completely backfilled with sand or gravel.
 - 2.3. The PVC duct shall extend not greater than 1 inch (25 mm) above the indoor concrete floor surface.
 - 2.4. The PVC duct shall extend not greater than 1 inch (25 mm) above grade outside of the building.
 - 2.5. The PVC ducts shall be solvent cemented.
 - 2.6. ~~The PVC ducts and fittings comply with Section 603.8.3.~~

Commenters Reason: The ducts for kitchen exhaust are different than the underground ducts. Typically, a kitchen exhaust duct is a greater thickness than an HVAC plastic duct. The IRC Committee recommended deletion of this additional wording in Part II of the code change.

Final Hearing Results

**M64-06/07, Part I
M64-06/07, Part II**

**AMPC1
AM**

Code Change No: M65-06/07

Original Proposal

Sections 505.2 (New); IRC M1503.4 (New)

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

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

PART I – IMC

Add new text as follows:

505.2 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cfm shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such make-up air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system

PART II – IRC

Add new text as follows:

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cfm shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such make-up air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Reason: Kitchens in homes are becoming larger and larger, resembling commercial kitchen environments with heavy-duty ranges and so forth. Currently there are no specific requirements for make-up air in a residence except for that in Section G2407. That section states in general that exhaust systems must be taken into account but provides no guidelines in doing so. Some hood systems exhaust 1800 cfm and more. That much air being removed can adversely affect the operation of other appliances in the residence. This language would require the installation of a motorized damper in the duct to prevent air from entering the building when the hood is not in operation. There are many hood systems with high velocity fans. For example; Sirius- 350 –600 cfm; Braun-340-1300 cfm; Allure, 300-1300 cfm, Range Master, 600-1500; Imperial, 660-1330 and so on. The 400-cfm figure is a reasonable threshold to start at. There are many hoods on the market that would fit under this benchmark and would allow for many installations that would NOT require additional makeup air. This proposal would not apply to whole-house fans, the theory being that someone will open windows and doors in order to evacuate the entire building. Although this proposal does not require tempered air, the cooking operations would offset the makeup air temperature especially when the outlet is located behind the range or cooktop. It will be up to the designer to require tempered air. Considering the tightness of the thermal envelope, and the effects of negative pressure on other systems, make-up air should be provided in these higher cfm exhaust systems.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: The larger kitchen exhaust systems need to have requirements for makeup air to prevent problems with other appliances caused by negative pressure.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Submitted

Committee Reason: Large homes with high volume kitchen exhaust fans are becoming more prevalent. This code change will insure that adequate makeup air is provided to prevent problems with venting and combustion air related to negative pressure.

Assembly Action:

None

Final Hearing Results

M65-06/07, Part I	AS
M65-06/07, Part II	AS

Code Change No: M66-06/07

Original Proposal

Sections: 506.3.1.1, 506.3.6

Proponent: Bob Eugene, Underwriters Laboratories, Inc., representing same

Revise as follows:

506.3.1.1 Grease duct materials. Grease ducts serving Type I hoods shall be constructed of steel not less than 0.055 inch (1.4 mm) (No. 16 Gage) in thickness or stainless steel not less than 0.044 inch (1.1 mm) (No. 18 Gage) in thickness.

Exception: ~~Listed and labeled~~ Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL1978 shall be and installed in accordance with Section 304.1.

506.3.6 Grease duct clearances. Grease duct systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457 mm), and shall have a clearance to noncombustible construction and gypsum wall board attached to noncombustible structures of not less than 3 inches (76 mm).

Exceptions: ~~Listed and labeled~~ Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978 and listed and labeled exhaust equipment installed in accordance with Section 304.1.

Reason: Add a direct reference to the standard for factory-built grease ducts. The code change will provide a clear direction for the code official for what standard applies to the factory-built grease ducts. UL 1978 is an ANSI approved standard. UL 1978 requirements cover factory-built grease ducts, and grease duct assemblies that are intended to be installed at reduced clearances where 18-inch (457 mm) clearance is specified in the International Mechanical Code.

Bibliography: UL 1978

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The change clarifies that UL 1978 is the appropriate standard for listing of factory-built commercial kitchen grease ducts.

Assembly Action:

None

Final Hearing Results

M66-06/07

AS

Code Change No: **M68-06/07**

Original Proposal

Section: 506.3.2.5

Proponent: Maureen Traxler, City of Seattle, WA, representing the Washington Association of Building Officials Technical Code Development Committee

Revise as follows:

506.3.2.5 Grease duct test. Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed ~~in the presence of the code official~~. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the ductwork from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test. A light test or an approved equivalent test method shall be performed to determine that all welded and brazed joints are liquid tight.

A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of duct work to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. A test shall be performed for the entire duct system, including the hood-to-duct connection. The ductwork shall be permitted to be tested in sections, provided that every joint is tested.

Reason: The purpose of this proposed code change is to delete a burdensome and unnecessary requirement.

Code officials should be given the discretion to determine whether to be present during grease duct tests. The current language does not regulate installers of grease ducts; it regulates code officials. It mandates that code officials perform a task that many believe is not necessary. Some code officials feel strongly that they want to witness each grease duct test, and the proposed modification allows them to do that. Code officials in other jurisdictions also feel strongly that witnessing each test is not an efficient use of resources, but this code section prohibits them from that making that choice. It is possible to ensure that adequate testing is done by establishing test protocols and requiring test reports. The city of Seattle does not witness grease duct tests, with no apparent negative consequences. The IMC allows other potentially dangerous systems to be installed without the building official witnessing a test, for example hazardous exhaust systems (section 510) and dust collecting systems (section 511).

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:

506.3.2.5 Grease duct test. Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed in the presence of the code official. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the ductwork from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test. A light test or an approved equivalent test method shall be performed to determine that all welded and brazed joints are liquid tight.

A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of duct work to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. A test shall be performed for the entire duct system, including the hood-to-duct connection. The ductwork shall be permitted to be tested in sections, provided that every joint is tested.

Exception: Subject to the approval of the code official, the leakage test need not be performed in the presence of the code official provided that an approved agency submits a report of the results of the test.

Committee Reason: The proposed change, with the modification, will still require the tests to be witnessed, but will allow the code official some flexibility to accept a report from an approved agency rather than having to observe each test himself.

Assembly Action:

Disapproved

Final Hearing Results

M68-06/07

AM

Code Change No: **M69-06/07**

Original Proposal

Section: 506.3.8

Proponent: John T.E. Walters, Prince William County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

506.3.8 Grease duct cleanouts and other openings. Grease duct systems shall not have openings therein other than those required for proper operation and maintenance of the system. Any portion of such system having sections not provided with access from the duct entry or discharge shall be provided with cleanout openings. Cleanout openings shall be equipped with tight-fitting doors constructed of steel having a thickness not less than that required for the duct. Doors shall be equipped with a substantial method of latching, sufficient to hold the door tightly closed. ~~Doors shall be designed so that they are operable without the use of a tool.~~ Door assemblies, including any frames and gasketing, shall be approved for the purpose, and shall not have fasteners that penetrate the duct. Listed and labeled access door assemblies shall be installed in accordance with the terms of the listing.

Reason: There is no reason a cleanout door should not be able to be bolted to a grease duct and require a wrench to remove such doors. The problem with the current text is when these doors are installed they typically use wing nuts. If the cleaning contractor does not tighten these wing nuts, a vulnerable spot is created in the system. These openings do not need quick access; in fact quite the opposite. A trained professional should be the one removing and replacing these doors and allowing the use of a tool is not an unreasonable allowance

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Removing the language as proposed will insure that the access doors can be tightened appropriately with a tool. The current language led to the use of wing nuts which often caused leaks in the grease ducts.

Assembly Action:

None

Final Hearing Results

M69-06/07

AS

Code Change No: **M74-06/07**

Original Proposal

Section 506.3.10

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

506.3.10 Grease duct enclosure. A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the out let terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. Ducts shall be enclosed in accordance with the *International Building Code* requirements for shaft construction. The duct enclosure shall be sealed around the duct at the point of penetration and vented to the out side of the building through the use of weather-protected openings. Clearance from the duct to the interior surface of enclosures of combustible construction shall be not less than 18 inches (457 mm). Clearance from the duct to the interior surface of enclosures of noncombustible construction or gypsum wall board attached to noncombustible structures shall be not less than 6 inches (152 mm). The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring or systems.

Exceptions:

1. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system classified tested and listed in accordance with ASTM E 814 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated and where the surface of the duct is shall be continuously covered on all sides from the point at which the duct originates penetrates a ceiling, wall or floor to the outlet terminal. The duct shall be covered with a classified listed and labeled material, system, product, or method of construction or product specifically evaluated for such purpose, in accordance with ASTM E2336. Such system shall be installed in accordance with the listing and the manufacturer's installation instructions. Exposed ductwrap systems shall be protected where subject to physical damage.
2. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system classified in accordance with ASTM E814 and having an "F" and "T" rating equal to the fire resistance rating of the assembly being penetrated and where a prefabricated grease duct enclosure assembly is protected on all sides from the point at which the duct penetrates a ceiling, wall or floor to the outlet terminal with a classified The shaft enclosure provisions of this section shall not be required where a listed and labeled prefabricated duct system, specifically evaluated for such purposes in accordance with UL 2221, is utilized. Such system shall be installed in accordance with the listing and the manufacturer's installation instructions.
3. A duct enclosure shall not be required for a grease duct that penetrates only a nonfire-resistance-rated roof/ceiling assembly.

Reason: Current text is confusing and may be misinterpreted to allow products that are unlisted or not listed for the intended application to be used for this purpose. The proposed revisions clarify the intent of the existing requirements for the user. The one difference is that the current requirements for a shaft shall be provided for duct systems where they originate not where they penetrate. This new language will require that ductwrap systems be installed to the same requirements as a shaft since this is an alternative to a shaft.

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

Public Hearing Results
Committee Action:**Disapproved**

Committee Reason: Deleting the "F" and "T" rating from the second exception will leave nothing to tell the user that the "F" and "T" rating of the system must be at least equal to the assembly being penetrated.

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:

Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association, requests Approval as Modified by this

Public Comment.

Modify proposal as follows:

506.3.10 Grease duct enclosure. A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the out let terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. Ducts shall be enclosed in accordance with the *International Building Code* requirements for shaft construction. The duct enclosure shall be sealed around the duct at the point of penetration and vented to the out side of the building through the use of weather-protected openings. Clearance from the duct to the interior surface of enclosures of combustible construction shall be not less than 18 inches (457 mm). Clearance from the duct to the interior surface of enclosures of noncombustible construction or gypsum wall board attached to noncombustible structures shall be not less than 6 inches (152 mm). The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring or systems.

Exceptions:

1. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system tested and listed in accordance with ASTM E 814 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. The surface of the duct shall be continuously covered on all sides from the point at which the duct originates to the outlet terminal. The duct shall be covered with a listed and labeled material, system, product, or method of construction specifically evaluated for such purpose, in accordance with ASTM E2336. Such system shall be installed in accordance with the listing and the manufacturer's installation instructions. Exposed ductwrap systems shall be protected where subject to physical damage.
2. ~~The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system tested in accordance with ASTM E814, having an "F" and "T" rating equal to the fire resistance rating of the assembly being penetrated and~~ The shaft enclosure provisions of this section shall not be required where a listed and labeled prefabricated duct system, ~~specifically evaluated listed~~ for such purposes in accordance with UL 2221, is utilized. Such system shall be installed in accordance with the listing and the manufacturer's installation instructions.
3. A duct enclosure shall not be required for a grease duct that penetrates only a nonfire-resistance-rated roof/ceiling assembly.

Commenter's Reason: As stated in the published Report of the Public Hearings, as this change was originally proposed it inadvertently removed a much needed reference to ASTM 814 in the second exception. As you can see the As Modified currently proposed includes this criteria. This proposal removes the outdated term "classified". Products are listed not classified. The newly worded second exception is important. As currently written it appears to require a shaft around prefabricated ductwork listed to UL 2221. It is not the intent to require a shaft installation for this type of listed ductwork. It is written as an exception to a shaft not in addition to a shaft.

Final Hearing Results

M74-06/07

AMPC2

Code Change No: M75-06/07

Original Proposal

Section: 506.3.12.3

Proponent: Cecil F. Hardee, Jr., County of Fairfax, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

506.3.12.3 Termination location. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from parts of the same or contiguous buildings, adjacent buildings and adjacent property lines ~~and air intake openings into any building~~ and shall be located not less than 10 feet (3048 mm) above the adjoining grade level. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from or not less than 2 feet (607 mm) above air intake openings into any building. Exhaust outlet terminations shall not be directed towards nor impinge on any structure.

Reason: The purpose of this change is to clarify the code for the termination of exhaust systems to contiguous or adjacent buildings. By adding a clearance requirement for contiguous or adjacent buildings it will ensure that adequate clearance above buildings is maintained and is consistent with other sections. Adequate air flow is needed to have an exhaust system operate properly. Not having a requirement only allows for problems. This section's provisions fail to allow the long time proven acceptable arrangement to be 2 feet above intake openings.

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 modifies the requirement for exhaust terminations in relationship to air intake openings by adding an allowance for terminations at least 2 feet above the air intake opening. This arrangement has proven effective in the field and was missing from this section.

Assembly Action:

None

Final Hearing Results

M75-06/07

AS

Code Change No: M76-06/07

Original Proposal

Section: 506.4.3 (New)

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Add new text as follows:

506.4.3 Type II terminations. Exhaust outlets serving Type II hoods shall terminate in accordance with the hood manufacturer's installation instructions and shall comply with all of the following;

1. Exhaust outlets shall terminate not less than 3 feet in any direction from openings into the building.
2. Exhaust outlets shall terminate not less than 10 feet from property lines.
3. Exhaust outlets shall terminate not less than 10 feet above grade.
4. Exhaust outlets shall terminate not less than 30 inches above the roof surface.
5. Exhaust outlets shall terminate not less than 30 inches from exterior vertical walls

Reason: Currently there are no termination requirements for type II hoods except for IMC section 401.5.2 which states that outlets shall be located so as not to cause a nuisance, which is subjective in nature and unenforceable. Installers need clear direction when terminating the exhaust from a type II hood. The 30-inch dimension will decrease the likelihood of any discoloration or impingement of exterior surfaces due to heat or smoke. The intent is to allow a manufactured hood to be installed according to its listing, but some hoods are shop fabricated with no listing. That's when these minimum requirements would be effective.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This change adds prescriptive requirements for Type II exhaust hood duct terminations rather than the current subjective language that the termination must not create a nuisance.

Assembly Action:

None

Final Hearing Results

M76-06/07

AS

Code Change No: **M77-06/07**

Original Proposal

Section: 507.2.2

Proponent: Randall R. Dahmen, WI Registered PE, WI Licensed Commercial Building Inspector, representing himself

Revise as follows:

507.2.2. Type II hoods. Type II hoods shall be installed where cooking or dishwashing appliances produce heat, steam, or products of combustion and do not produce grease or smoke, such as steamers, kettles, pasta cookers and dishwashing machines.

Exceptions:

1. Under-counter-type commercial dishwashing machines.
2. A Type II hood is not required for dishwashers and potwashers that are provided with heat and water vapor exhaust systems that are supplied by the appliance manufacturer and are installed in accordance with the manufacturer's instructions.
3. A single light-duty electric convection, bread, retherm or microwave oven. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.
4. A Type II hood is not required for the following electrically heated appliances: toasters, steam tables, popcorn poppers, hot dog cookers, coffee makers, rice cookers, egg cookers, holding/warming ovens. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.
5. Any appliance having an engineered exhaust system incorporated as part of the appliance's design.

Reason: There are several restaurants that have bread ovens, pizza ovens, and similar appliances that have engineered exhaust fans and associated ductwork pre-designed for use with that specific appliance. As currently written, there is no exception in the code for the exclusion of a type II hood over such appliances. Without inclusion of the proposed code change, there will be duplicated exhaust efforts on some appliances, which is neither energy efficient nor cost effective to the building owner.

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 adds an exception for not requiring a Type II hood to be placed over an appliance that already has an engineered exhaust system integral to the appliances design. Requiring a hood over such an appliance would be redundant and not cost effective.

Assembly Action:

None

Final Hearing Results

M77-06/07

AS

Code Change No: **M79-06/07**

Original Proposal

Section: 507.9

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

507.9 Clearances for Type I hood. A Type I hood shall be installed with a clearance to combustibles of not less than 18 inches (457 mm).

Exception: Clearance shall not be required from gypsum wallboard or 1/2-inch or thicker cementitious wallboard attached to noncombustible structures provided that a smooth, cleanable, nonabsorbent and noncombustible material is installed between the hood and the gypsum wallboard over an area extending not less than 18 inches (457 mm) in all directions from the hood.

Reason: As written, this exception does not allow cementitious type wallboard (Durock) to be utilized in reducing clearances for the hood. Why not? It's a great material for the application and will probably hold up to prolonged heat exposure better than gypsum. This will also provide a little flexibility in the choice of materials.

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

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal needs further work to include the cementitious wallboard throughout this section. In the next-to-last line of the proposal, it only mentions gypsum wallboard, but it should also address the cementitious product.

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:

Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO) requests Approval as Modified by this Public Comment.

Modify proposal as follows:

507.9 Clearances for Type I hood. A Type I hood shall be installed with a clearance to combustibles of not less than 18 inches (457 mm).

Exception: Clearance shall not be required from gypsum wallboard or 1/2-inch or thicker cementitious wallboard attached to noncombustible structures provided that a smooth, cleanable, nonabsorbent and noncombustible material is installed between the hood and the gypsum or cementitious wallboard over an area extending not less than 18 inches (457 mm) in all directions from the hood.

Commenter's Reason: There was support for this change except the last part of the change "or cementitious" was accidentally left out.

Final Hearing Results

M79-06/07

AMPC1

Code Change No: **M81-06/07**

Original Proposal

Section: 508.1

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

508.1 Makeup air. Make up air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of make-up air supplied shall be approximately equal to the amount of exhaust air. The make-up air shall not reduce the effectiveness of the exhaust system. Makeup air shall be provided by gravity or mechanical means or both. For mechanical makeup air systems, the ~~exhaust and~~ makeup air systems shall be ~~electrically interlocked to ensure that makeup air is provided whenever the exhaust system is in operation.~~ automatically controlled to start and operate simultaneously with the exhaust system. Makeup air intake openings shall comply with Sections 401.4 and 401.4.1.

Reason: The term "interlock" is used many times in the IMC and IFGC. For example, IMC sections 502.7.3, 507.2.1.1, 706.1 and 709.1 and IFGC sections 304.9.2, 304.10, 505.1.1, and 611.7. The point is that an "interlock" is a control arrangement that supervises the operation of one or more components in a system and provides feedback (verification) to one or more of such components for the purpose of proving that conditions are safe for starting and continuing an operation. For example, a power exhaust fan used to vent a boiler is provided with controls that verify the proper operation of the exhaust fan and, in turn, these "proving" controls allow the boiler to fire or prevent it from firing. This is a true interlock. Kitchen hood exhaust and makeup air systems are required by Section 508.1 to be interlocked, however, is it the intent to require supervisory controls on the makeup air fan to prove that the fan is running before allowing the exhaust fan to run? Traditionally, these fans have simply been wired for parallel starting and operation, without supervisory controls. What does the code intend for makeup air fans? To eliminate any confusion, it would be best to simply state that the system needs to operate simultaneously.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Electrically interlocking a kitchen hood with makeup air fans or HVAC equipment could result in rewiring the equipment which would violate the listing and possibly terminate the warranty. Starting the fan in parallel with the hood is all that is required.

Assembly Action:

None

Final Hearing Results

M81-06/07

AS

Code Change No: **M83-06/07**

Original Proposal

Section: 508.2

Proponent: Bob Eugene, Underwriters Laboratories, Inc., representing same

Revise as follows:

508.2 Compensating hoods. Manufacturers of compensating hoods shall provide a label indicating minimum exhaust flow and/or maximum makeup airflow that provides capture and containment of the exhaust effluent.

Exception: Compensating hoods with makeup air supplied only from front face discharge and side face discharge openings shall not be required to be labeled with the maximum makeup airflow.

Reason: To correlate with the requirements in UL 710 and allow flexibility in design. UL 710 does not require the evaluation and marking of the maximum makeup air for front face and/or side face discharge openings. Excess flow in these areas would not adversely impact the capture and containment of cooking product effluent. The flows for the 'short circuit' hoods are critical to capture and containment of cooking product effluent. Front face and/or side face discharge compensating hoods when combined with room supply air effectively provide for the capture of cooking product effluent, allowing greater flexibility in design.

The IMC definition of compensating hood includes short circuit as well as hoods with makeup air supply openings on the front face and side face. UL 710 does not require evaluations and marking of maximum makeup air for front face and/or side face discharge openings.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The new exception would allow the compensating hoods described in the proposal to not be labeled with the maximum makeup airflow. This is in agreement with UL 710 which is the standard to which such hoods are listed.

Assembly Action:

None

Final Hearing Results

M83-06/07

AS

Code Change No: **M84-06/07**

Original Proposal

Section 510.4

Proponent: Robert Adkins, Prince William County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

510.4 Independent system. Hazardous exhaust systems shall be independent of other types of exhaust systems. Incompatible materials, as defined in the *International Fire Code*, shall not be exhausted through the same hazardous exhaust system. Hazardous exhaust systems shall not share common shafts with other duct systems, except where

such systems are hazardous exhaust systems originating in the same fire area.

Exception: The provision of this section shall not apply to laboratory exhaust systems where all of the following conditions apply:

1. All of the hazardous exhaust ductwork and other laboratory exhaust within both the occupied space and the shafts is under negative pressure while in operation.
2. The hazardous exhaust ductwork manifolded together within the occupied space must originate within the same fire area.
3. Each control branch has a flow regulating device.
4. Perchloric acid hoods and connected exhaust shall be prohibited from manifolding.
5. Radioisotope hoods are equipped with filtration and/or carbon beds where required by the registered design professional.
6. Biological safety cabinets are filtered.
7. Provision is made for continuous maintenance of negative static pressure in the ductwork.

Contaminated air shall not be recirculated to occupied areas, ~~unless the contaminants have been removed.~~ Air ~~contaminated containing~~ with explosive or flammable vapors, fumes or dusts; flammable, highly toxic or toxic gases; or radioactive material shall be considered to be contaminated. ~~not be recirculated.~~

Reason: If the contaminants in an air stream have been removed, then the air stream is not contaminated. The text makes no sense.

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 removes some conflicting language; if the contaminants have been removed, then the air stream is no longer contaminated and can be recirculated.

Assembly Action:

None

Final Hearing Results

M84-06/07

AS

Code Change No: M85-06/07

Original Proposal

Section: 510.8, Chapter 15 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc., representing same

1. Revise as follows:

510.8 Duct construction. Ducts utilized to convey hazardous exhaust shall be constructed of approved G90 galvanized sheet steel, with a minimum nominal thickness as specified in Table 510.8.

Nonmetallic ducts utilized in systems exhausting nonflammable corrosive fumes or vapors shall be listed and labeled. Nonmetallic duct shall have a flame spread index of 25 or less and a smoke-developed index of 50 or less, when tested in accordance with ASTM E 84 or UL 723. Ducts shall be approved for installation in such an exhaust system.

Where the products being exhausted are detrimental to the duct material, the ducts shall be constructed of

alternative materials that are compatible with the exhaust.

2. Add new standard to Chapter 15 as follows:

UL

723-03 Standard for Test for Surface Burning Characteristics of Building Materials, with Revisions through May 2005

Reason: 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 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 Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: This change adds a new standard for testing combustibility of products as an alternate to the existing UL 723. This will provide more flexibility in approving products.

Assembly Action:

None

Final Hearing Results

M85-06/07

AS

Code Change No: M89-06/07

Original Proposal

Section: 602.2.1

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

Revise as follows:

602.2.1 Materials exposed within plenums. Except as required by Sections 602.2.1.1 through 602.2.1.5, materials within plenums shall be noncombustible or shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 50 when tested in accordance with ASTM E 84.

Exceptions:

1. Rigid and flexible ducts and connectors shall conform to Section 603.
2. Duct coverings, linings, tape and connectors shall conform to Sections 603 and 604.
3. This section shall not apply to materials exposed within plenums in one- and two-family dwellings.
4. This section shall not apply to smoke detectors.
5. Combustible materials fully enclosed in within continuous noncombustible raceways or enclosures, approved gypsum board assemblies or ~~enclosed within in~~ materials listed and labeled for such application.

Reason: This change is intended to ensure that wiring fully enclosed in the raceways that the National Electrical Code (and the ICC Electrical Code) allows in plenums can continue to be used while preventing misuse. It is important that THHN and other similar combustible wiring be permitted for use in plenums but it is also important that no open or semi-open “enclosures” are used. There is wording in section 909.12.1 of the IFC that discusses wiring and states: “shall be fully enclosed within continuous raceways” and that wording was used as a model for this proposal. The word “enclosed” is used in the IMC as a contrast to the word “open” but does not necessarily imply that there are no openings in the enclosure, as when the IMC talks about “enclosed parking garages”. Proposals and comments to the last edition of the IMC made it clear that there is interest in permitting multi component systems that are not completely sealed and include combustible parts; such systems should not be allowed.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change will prohibit semi-open or discontinuous enclosure systems that would allow combustible wiring or components to be exposed within the plenum.

Assembly Action:

None

Final Hearing Results

M89-06/07

AS

Code Change No: M91-06/07

Original Proposal

Sections: 603.4.1 (New); IRC M1601.3.1

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

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

PART I – IMC

Add new text as follows:

603.4.1 Minimum fasteners. Round metallic ducts shall be mechanically fastened by means of at least three sheet metal screws or rivets spaced in approximately uniform intervals along the circumference of the duct.

PART II – IRC

Revise as follows:

M1601.3.1 Joints and seams. Joints of duct systems shall be made substantially airtight by means of tapes, mastics, gasketing or other approved closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL

181A and shall be marked “181A-P” for pressure-sensitive tape, “181 A-M” for mastic or “181 A-H” for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked “181B-FX” for pressure-sensitive tape or “181B-M” formastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1 1/2 inches (38 mm) and shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint spaced in approximately uniform intervals along the circumference of the duct.

Reason: (IMC) The code needs to make it clear that 2 fasteners are insufficient when fastening ducts together. The 1995 edition of SMACNA makes it clear in figure 3-2 that a minimum of three screws are required. Also, three screws located in close proximity are non-compliant. They must be approximately equally spaced around the pipe to make a strong joint. A general rule of thumb would be the number of screws required to make a strong joint is equal to half the diameter of the duct. For instance, a sixteen-inch duct would only need eight screws to make a strong joint.

(IRC-M) The text “equally spaced around the duct” is impossible to achieve in the real world. This language allows for a little deviation, if the screws are not exactly spaced, the installation will be compliant. As it stands, the strict letter of the code cannot be practically met.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Modified

Modify the proposal as follows:

603.4.1 Minimum fasteners. Round metallic ducts shall be mechanically fastened by means of at least three sheet metal screws or rivets spaced equally around the joint in approximately uniform intervals along the circumference of the duct.

Exception: Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion so as to prevent a hinge effect.

Committee Reason: The new section will require at least three fasteners on all duct joints to prevent a hinge effect that two fasteners would allow. This is consistent with language already in the *International Residential Code*. The modification adds an exception to clarify that when the duct is partially inaccessible, such as when installed between floor joists, the fasteners can be spaced equally around the exposed portion of the joint since equal spacing around the entire joint is not possible in such an installation.

Assembly Action:

None

PART II — IRC

Withdrawn by Proponent

Final Hearing Results

M91-06/07, Part I	AM
M91-06/07, Part II	WP

Code Change No: M92-06/07

Original Proposal

Section: 603.8.1

Proponent: Randall R. Dahmen, WI Registered PE, WI Licensed Commercial Building Inspector, representing himself

Revise as follows:

603.8.1 Slope. Ducts shall have a minimum slope of 1/8” per foot to allow drainage to a point provided with access.

Reason: The IMC already adopts SMACNA HVAC Duct Construction Standard-Metal and Flexible under IMC 603.4. Review of that standard requires that underground ducts have a minimum slope of 1/8” per foot to a sump or place of drainage. Since the current code text already indicates the need for slope, and the minimum slope is already defined by an adopted standard, it would seem only reasonable to define that drainage for

code enforcement purposes.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The code change adds a needed slope for underground ducts. The proposed slope is consistent with the SMACNA standard for HVAC Duct Construction.

Assembly Action:

None

Final Hearing Results

M92-06/07

AS

Code Change No: **M95-06/07**

Original Proposal

Sections: 603.9; IRC M1601.3.1

Proponent: John R. Addario, P.E., New York State Department of State Codes Division

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

PART I - IMC

Revise as follows:

603.9 Joints, seams and connections. All longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC *Duct Construction Standards- Metal and Flexible* and NAIMA *Fibrous Glass Duct Construction Standards*. All joints, longitudinal and transverse seams, and connections in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems, liquid sealants, or tapes. Tapes and mastics used to seal ductwork listed and labeled in accordance with UL 181A shall be marked "181A-P" for pressure-sensitive tape, "181 A-M" for mastic or "181 A-H" for heat-sensitive tape. Tapes and mastics used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181B-FX" for pressure-sensitive tape or "181B-M" for mastic. Duct connections to flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL181B and shall be marked 181B-C. Unlisted duct tape is not permitted as a sealant on any metal ducts.

PART II – IRC

Revise as follows:

M1601.3.1 Joints and seams. Joints of duct systems shall be made substantially airtight by means of tapes, mastics, liquid sealants, or gasketing. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked "181A-P" for pressure-sensitive tape, "181A-M" for mastic or "181 A-H" for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181B-FX" for pressure-sensitive tape or "181B-M" for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Crimp joints for round ducts shall have a contact lap of at least 1.5 inches (38 mm) and shall be mechanically fastened by means of at least three sheet metal screws or

rivets equally spaced around the joint.

Reason: The purpose of this proposal is to clarify the use of the materials that can be used for sealing ducts, specifically metal ducts. UL181 only applies to factory made rigid fibrous ducts and flexible air ducts and connectors. UL181A and B only applies to these types of ducts and does not apply to metal ducts, therefore tapes and mastics meeting these listings are not tested on metal ducts.

The SMACNA HVAC *Duct Construction Standards- Metal and Flexible* (referenced in IMC section 603.4) standard specifically distinguishes between a liquid sealant and mastic. The SMACNA standard also recognizes the use of a liquid sealant as an adequate product for sealing ducts. Liquid sealants are widely available from several different manufactures and used with some two part systems. Pliable “duct sealants” would be considered either a “Liquid Sealant” or a “Mastic”.

SMACNA DCS distinguishes and describes a liquid sealant and mastic as follows:

“**1.7.2 Liquids.** Many manufactures produce liquid sealants specifically for ducts. They have the consistency of heavy syrup and can be applied either by brush or with a cartridge gun or powered pump. . . .”

“**1.7.3 Mastics.** Heavy mastic sealants are more suitable as fillets, in grooves or between flanges. . . .”

Several different manufacturer’s installation instructions for fire dampers and fire and smoke dampers specifically list approved sealants to be used to seal the duct connection to the fire damper. Most of these installation manuals list up to three different manufactures of sealants; in some cases all or at least two of the three are considered a “liquid sealant.” These types of sealants are used on breakaway joints.

Some duct connections (mostly to serviceable equipment, filter racks, coils, etc.) are preferred to be sealed with RTV type sealant, which provides excellent durability, remains flexible and can be separated in the future if service needs require the removal of the duct or for clearances. Several installation manuals, in fact, recommend this type of duct connection.

The code allows ‘gypsum ducts’ (on return air) and requires all ducts to be “sealed”, but you would be more apt to use what is considered a liquid sealant in this particular application than a mastic.

This proposal would clarify the use of liquid sealants, which would also include aerosol systems, provided they are listed and labeled for the intended application. Specifically adding the text “liquid sealant” and not relying on “Alternate Materials and Methods” will provide uniform enforcement of the code.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: Liquid sealants have been used successfully in the field for sealing ducts. It is appropriate to add them to the code.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Submitted

Committee Reason: This change adds liquid sealants as another method of sealing ducts. This action is consistent with the action taken on M95-06/07, Part I by the IMC committee.

Assembly Action:

None

Final Hearing Results

M95-06/07, Part I	AS
M95-06/07, Part II	AS

Code Change No: **M98-06/07**

Original Proposal

Sections 202 (New), 603.17.3 (New), Chapter 15 (New)

Proponent: Kevin Gebke, DuctSox Corporation, representing same

1. Add new text as follows:

SECTION 202 GENERAL DEFINITIONS

AIR DISPERSION SYSTEM. Any diffuser system designed to, both, convey air within a room, space or area and diffuse air into that space while operating under positive pressure. Systems are commonly constructed of, but not limited to, fabric or plastic film.

603.17.3 Air dispersion systems. Air dispersion systems shall be located in the space that is being conditioned by the system and shall be operated under positive pressure. Air dispersion systems shall not pass through fire-resistance-rated assemblies. Air dispersion systems shall be listed and labeled in accordance with UL 2518.

2. Add new standard to Chapter 15 as follows:

UL

2518-05 Air Dispersion System Materials

Reason: Recognize and provide requirements for new technology. Current Code provisions do not address this technology. This Code addition would ensure that systems installed and used would meet requirements that set a level of safety. These requirements include testing for surface burning characteristics (flame spread and smoke developed), mold growth, humidity, temperature, and pressure.

These systems in the United States can be traced back to greenhouses where a plastic tube with holes in it was connected to a wall panel fan. This tube with holes helped establish a uniform environment within the greenhouse as compared to the wall fan blowing the air wildly into the building. The concept was simple; use the physical size of the component along with diffusion air velocity to create a uniform room environment.

Most connections, where the Air Dispersion System connects to the supplying air duct, are made at a sidewall. The supplying air duct has done its job; it has conveyed air from the air handling unit to the destination room, space, or area. At this point a sidewall grille or other type of diffuser could be used to diffuse the air into the space. This diffuser would rely on the velocity of the exiting air and its direction to meet requirements of the space. An Air Dispersion System uses a physical and a velocity means to meet room requirements. The Air Dispersion System would be mounted in place of, for this example, the sidewall grille. The System, by physically being longer, the velocity exiting the system is more uniformly distributed throughout the space.

This technology has been used for over fifty years in the United States, and longer in Europe. The concept, here in the US, originated in the agricultural industry, and through innovative fabric technology and proven performance, has evolved into an attractive means to diffuse air within open ceiling spaces. These applications include food processing (refrigeration), industrial, warehousing, retail, convention centers, offices, athletic, and laboratory environments. Initially, these systems were subjected to ASTM E84. Subsequently, it was recognized that additional requirements were necessary to determine the suitability of the systems in these applications. These requirements were developed through ICBO ES into an acceptance criteria (AC 167), and those requirements have been incorporated into UL 2518.

Bibliography:

UL 2518

ICC ES AC167

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 published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did not comply with ICC standards criteria, Section 3.6.2.11.

Committee Action:

Approved as Modified

Modify the proposal as follows:

603.17.3 Air dispersion systems. Air dispersion systems shall be ~~located~~ **exposed** in the space that is being conditioned by the system and shall be operated under positive pressure. Air dispersion systems shall not pass through fire-resistance-rated assemblies. Air dispersion systems shall be listed and labeled.

Committee Reason: The proposal adds a new technology for air dispersion systems with guidance for proper installation and operation. The modification changed the term "located" to "exposed" to emphasize that the diffuser must be completely exposed to the room and not concealed in the building construction. The modification also deleted the reference to UL 2518 because it was not a consensus standard.

Assembly Action:

None

Final Hearing Results

M98-06/07

AM

Code Change No: M108-06/07

Original Proposal

Sections: 202, 701.1; IRC R202, M1701.1

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

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

PART I – IMC**1. Delete without substitution:**

**SECTION 202
GENERAL DEFINITIONS**

~~**CONFINED SPACES.** A space having a volume less than 50 cubic feet per 1,000 British thermal units per hour (Btu/h) (4.8m³/kW) of the aggregate input rating of all appliances installed in that space.~~

~~**UNCONFINED SPACE.** A space having a volume not less than 50 cubic feet per 1,000 Btu/h (4.8m³/kW) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed, through openings not furnished with doors, are considered a part of the unconfined space.~~

~~**UNUSUALLY TIGHT CONSTRUCTION.** Construction meeting the following requirements:~~

- ~~1. Walls exposed to the outdoor atmosphere having a continuous water vapor retarder with a rating of 1 perm [57 ng/ (s • m² • Pa)] or less with openings gasketed or sealed;~~
- ~~2. Openable windows and doors meeting the air leakage requirements of the *International Energy Conservation Code*, Section 402.4.2; and~~
- ~~3. Caulking or sealants are applied to areas, such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines and at other openings.~~

2. Revise as follows:

~~**701.1 Scope.** The provisions of this chapter shall govern the requirements for combustion and dilution air for fuel-burning appliances other than gas-fired appliances. The requirements for combustion and dilution air for gas-fired appliances shall be in accordance with the *International Fuel Gas Code*.~~

Solid-fuel-burning appliances shall be provided with combustion air, in accordance with the appliance manufacturer's installation instructions. Oil-fired appliances shall be provided with combustion air in accordance with NFPA 31. The methods of providing combustion air in this chapter do not apply to fireplaces, fireplace stoves and direct-vent appliances. The requirements for combustion and dilution air for gas-fired appliances shall be in accordance with the *International Fuel Gas Code*.

(Delete without substitution remaining text in Chapter 7)

PART II – IRC

1. Delete without substitution:

**SECTION R202
GENERAL DEFINITIONS**

~~**CONFINED SPACES.** A space having a volume less than 50 cubic feet per 1,000 British thermal units per hour (Btu/h) (4.8 m³/kW) of the aggregate input rating of all appliances installed in that space.~~

~~**UNCONFINED SPACE.** A space having a volume not less than 50 cubic feet per 1,000 Btu/h (4.8m³/kW) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed, through openings not furnished with doors, are considered a part of the unconfined space.~~

~~**UNUSUALLY TIGHT CONSTRUCTION.** Construction meeting the following requirements:~~

- ~~1. Walls exposed to the outdoor atmosphere having a continuous water vapor retarder with a rating of 1 perm [57 ng/(s • m² • Pa)] or less with openings gasketed or sealed;~~
- ~~2. Openable windows and doors meeting the air leakage requirements of the *International Energy Conservation Code*, Section 402.4.2; and~~
- ~~3. Caulking or sealants are applied to areas, such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines and at other openings.~~

2. Revise as follows:

~~**M1701.1 Air supply Scope.** Liquid and Solid-fuel-burning appliances shall be provided with combustion air, in accordance with the appliance manufacturer's installation instructions. Oil-fired appliances shall be provided with combustion air in accordance with NFPA 31. Section M1702 or Section M1703. The methods of providing combustion air in this chapter do not apply to fireplaces, fireplace stoves and direct-vent appliances. The requirements for combustion and dilution air for gas-fired appliances shall be in accordance with *Chapter 24*.~~

(Delete without substitution remaining text in Chapter 17)

Reason: Current text is based on Natural Gas provisions. This is an incorrect application of code requirements, solid and liquid burning appliances do not have all the exact same characteristics as fuel gas burning appliances. These definitions have been deleted from Chapter 24 by way of the IFGC. They were used to determine if a structure needed the addition of outdoor air for combustion air.

Testing from the fuel gas industry has determined that “unusually tight”, “unconfined space”, and “confined space”, are not factors of any relevance when determining if combustion air needs to be obtained from outdoors.

The provisions found in Chapter 7 of the IMC and 17 of the IRC are based on fuel gas provisions which are not germane to liquid and solid fuel burning appliances. NFPA 31 is already a referenced document in the IRC so there is not an increased cost to construction. NFPA 31 is a maintained document that contains the relevant information for liquid fuel burning appliances. As always the manufacturer's installation instructions are part of code requirements.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: The combustion air requirements currently located in Chapter 7 are based on gas-fired appliance installations. NFPA 31 is the appropriate source for the method of calculating combustion air for oil-fired appliances.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Submitted

Committee Reason: NFPA 31 is the appropriate source for the method of calculating combustion air for oil-fired appliances. Current Chapter 17 requirements are based on gas-fired appliance data.

Assembly Action:

None

Final Hearing Results

M108-06/07, Part I

AS

M108-06/07, Part II

AS

Code Change No: M109-06/07

Original Proposal

Sections 801.18.4, 801.18.4.1 (New)

Proponent: Bob Eugene, Underwriters Laboratories Inc., representing same

1. Revise as follows:

801.18.4 Clearances. Chimneys and vents shall have air-space clearance to combustibles in accordance with the International Building Code and the chimney or vent manufacturer's installation instructions.

Exception: Masonry chimneys equipped with a chimney lining system tested and listed for installation in chimneys in contact with combustibles in accordance with UL1777, and installed in accordance with the manufacturer's instructions, shall not be required to have clearance between combustible materials and exterior surfaces of the masonry chimney.

2. Add new text as follows:

801.18.4.1 Fireblocking. Noncombustible fireblocking shall be provided in accordance with the *International Building Code*.

Reason: Re-formatting this section allows deletion of duplicative words that are included only because 801.18.4 covers both clearances and firestopping. By dividing this into two sections, clarity is added.

Bibliography: IFGC 501.15.4

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

Analysis: Are all UL 1777 listed chimney lining systems tested for use in chimneys that are in contact with combustibles?

Public Hearing Results

Committee Action:

Approved as Modified

Modify the proposal as follows:

801.18.4 Clearances. Chimneys and vents shall have air-space clearance to combustibles in accordance with the International Building Code and the chimney or vent manufacturer's installation instructions.

Exception: ~~Masonry chimneys equipped with a chimney lining system tested and listed in accordance with UL1777. Existing masonry chimneys without the required air-space clearances shall be permitted to be used if lined or relined with a chimney lining system listed for use in chimneys with reduced clearances in accordance with UL 1777. The chimney clearance shall be not less than permitted by the terms of the chimney liner listing and the manufacturer's instructions.~~

(Portions of proposal not shown remain unchanged)

Committee Reason: This code change clarifies the code language by separating the clearance requirements from the fireblocking requirements in a separate section and deleting some duplicated language. The modification makes it clear that the reduced clearances achieved by installing the chimney liner must not be less than stated in the listing for the liner and the manufacturer's installation instructions.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

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

Public Comment:

Note: The following individuals separately submitted public comments with the same proposed modification. Their separate reason statements are provided below the proposed modification.

Bob Eugene, Underwriters Laboratories Inc., representing same, requests Approval as Modified by this Public Comment.

Jonathan C. Siu, City of Seattle, WA, representing WABO Technical Code Development Committee, requests Approval as Modified by this Public Comment.

Further modify proposal as follows:

801.18.4 Clearances. Chimneys and vents shall have air-space clearance to combustibles in accordance with the International Building Code and the chimney or vent manufacturer's installation instructions.

Exception: ~~Existing~~ Masonry chimneys without the required air-space clearances shall be permitted to be used if lined or relined with a chimney lining system listed for use in chimneys with reduced clearances in accordance with UL 1777. The chimney clearance shall be not less than permitted by the terms of the chimney liner listing and the manufacturer's instructions.

(Portions of proposal not shown remain unchanged)

Commenter's Reason (Eugene and Siu): The word "Existing" is deleted in the exception to be consistent with the committee action on FG46-06/07. UL 1777 is applicable to both new and existing chimneys.

Final Hearing Results

M109-06/07

AMPC1

Code Change No: **M110-06/07**

Original Proposal

Section 801.20

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

801.20 Plastic vent joints. Plastic pipe and fittings used to vent appliances shall be installed in accordance with the pipe manufacturer's installation instructions and the appliance manufacturer's installation instructions. ~~Solvent cement joints between ABS pipe and fittings shall be cleaned. Solvent cement joints between CPVC and PVC pipe and fittings shall be primed. The primer shall be a contrasting color.~~

~~**Exception:** Where compliance with this section would conflict with the appliance manufacturer's installation instructions.~~

Reason: These are not generic requirements; "cleaned" and "primed" have specific provisions associated with them in the manufacturer's installation instructions. The deletion of language of this section is because some manufacturers do not require the primers to be "contrasting in color" therefore, it is a conflict between the code and the manufacturer's installation instructions. It is not clear which is the less stringent as Section 304.2 would be required to resolve this conflict. The last sentence was added a couple of code cycles back solely for the purpose to allow the code official the benefit of visual verification that primer (or something) was used. The same sentence was submitted to the IFGC at the same time but was disapproved. Unfortunately, this is somewhat different than plumbing joint and connection requirements because the appliance manufactures get their appliances listed including the venting system specified in the installation instructions.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: There is no need to prescribe installation requirements for vent piping because the appliance manufacturers get the vent included in the listing of the appliance as specified in the installation instructions. The requirement for the primer to be contrasting in color has caused problems because some installation instructions do not have this requirement.

Assembly Action:

None

Final Hearing Results

M110-06/07

AS

Code Change No: M113-06/07

Original Proposal

Section: 914.2, Chapter 15

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

914.2 Installation. Sauna heaters shall be listed and labeled in accordance with UL 875 and shall be installed in accordance with their listing and the manufacturer's installation instructions.

2. Add new standard to Chapter 15 as follows:

UL
875-04 Electric Dry Bath Heater

Reason: UL 875 is the ANSI standard used for listing and labeling sauna heaters.

These requirements cover electric dry-bath heating equipment and other equipment rated 600 volts or less that is intended to produce a dry-heat environment to be installed in accordance with the National Electrical Code, ANSI/NFPA 70. The relative humidity in the heated environment is in the region of 10 - 25 percent and the purpose of the heated environment is to promote perspiration in a short time by means of a relatively warm and dry atmosphere. The completed equipment is to be provided with an automatic temperature-regulating control that may be integral with the heater or wall-mounted, with an integral manual-reset limit control, a timer, and any other necessary associated equipment.

Bibliography: UL 875

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 published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: This change adds a nationally recognized standard to the code that the code official needs for acceptance of sauna heaters.

Assembly Action:

None

Final Hearing Results

M113-06/07

AS

Code Change No: **M114-06/07**

Original Proposal

Section: 915.1, Chapter 15

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

915.1 General. The installation of liquid-fueled stationary internal combustion engines and gas turbines, including exhaust, fuel storage and piping, shall meet the requirements of NFPA 37. Stationary engine generator assemblies shall meet the requirements of UL 2200.

2. Add standard to Chapter 15 as follows:

UL

2200-04 Stationary Engine Generator Assemblies

Reason: Add requirements for installation of stationary engine generator assemblies.

The exhaust provisions of NFPA 37 should also be applied. UL 2200 is the ANSI standard used to evaluate stationary engine generator assemblies for this application.

UL 2200 is currently referenced in the IFC. UL 2200 requirements cover stationary engine generator assemblies rated 600 volts or less that are intended for installation and use in ordinary locations in accordance with the National Electrical Code NFPA-70; the Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, NFPA-37, the Standard for Health Care Facilities, NFPA-99, and the Standard for Emergency and Standby Power Systems, NFPA-110.

Bibliography: IFC Section 604.1.1.

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 published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: UL 2200 is needed for acceptance of the stationary engine generator assemblies. The existing NFPA 37 standard only covers the installation of the generators.

Assembly Action:

None

Final Hearing Results

M114-06/07

AS

Code Change No: M115-06/07

Original Proposal

Section: 917.1, Chapter 15

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

917.1 Cooking appliances. Cooking appliances that are designed for permanent installation, including ranges, ovens, stoves, broilers, grills, fryers, griddles and barbecues, shall be listed, labeled and installed in accordance with the manufacturer's installation instructions. Commercial electric stoves cooking appliances shall be listed and labeled in accordance with UL 197. Household electric ranges shall be listed and labeled in accordance with UL 858. ~~or~~ Microwave cooking appliances shall be listed and labeled in accordance with UL 923. Oil-burning stoves shall be ~~tested~~ listed and labeled in accordance with UL 896. Solid fuel-fired ovens shall be ~~tested~~ listed and labeled in accordance with UL 2162.

2. Add standards to Chapter 15 as follows:

UL

- 858-05 Household Electric Ranges
- 923-02 Microwave Cooking Appliances, with Revisions through February 2006

Reason: Clarify code by adding references to specific standards pertaining to listing and labeling.

Providing information regarding the specific standards that apply to various products help the users. UL 197 is currently referenced in Section 507.1. UL 923 is currently referenced in the IRC Section M1503.1.

All three standards added to this section are ANSI approved standards.

Bibliography: IMC Section 507.1; IRC Section M1503.1

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 published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: This change adds new standards needed for the acceptance of household electric ranges and microwave cooking appliances.

Assembly Action:

None

Final Hearing Results

M115-06/07

AS

Code Change No: M118-06/07

Original Proposal

Table 1103.1

Proponent: Robert Doerr, Fountain City, WI, representing himself

Revise table as follows:

**[F] TABLE 1103.1
REFRIGERANT CLASSIFICATION, AMOUNT AND TLV-TWA**

REFRIGERANT	CHEMICAL FORMULA	CHEMICAL NAME OR BLEND	HAZARD CATEGORIES	REFRIGERANT CLASSIFICATION	DEGREES OF HAZARD	POUNDS PER 1000 CUBIC FEET	PPM	G/M3	TLV-TWA (PPM)
R-717	NH3	Ammonia	CG,C,F,OHH	B2	3-3-0 ^d	0.022 0.014	500 320	0.35 0.22	25
<u>R-418A</u>	<u>zeotrope</u>	<u>R-290/22/152a (1.5/96.0/2.5)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-419A</u>	<u>zeotrope</u>	<u>R-125/134a/E170 (77.0/19.0/4.0)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-420A</u>	<u>zeotrope</u>	<u>R-134a/142b (88.0/12.0)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-421A</u>	<u>zeotrope</u>	<u>R-125/134a (58.0/42.0)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-421B</u>	<u>zeotrope</u>	<u>R-125/134a (85.0/15.0)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-422A</u>	<u>zeotrope</u>	<u>R-125/134a/600a (85.1/11.5/3.4)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-422B</u>	<u>zeotrope</u>	<u>R-125/134a/600a (55.0/42.0/3.0)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-422C</u>	<u>zeotrope</u>	<u>R-125/134a/600a (82.0/15.0/3.0)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-422D</u>	<u>zeotrope</u>	<u>R-125/134a/600a (65.1/31.5/3.4)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-423A</u>	<u>zeotrope</u>	<u>R-134a/227ea (52.5/47.5)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-424A</u>	<u>zeotrope</u>	<u>R- 125/134a/600a/600/601a (50.5/57.0/0.9/1.0/0.6)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-425A</u>	<u>zeotrope</u>	<u>R-32/134a/227ca (18.5/69.5/12.0)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				
<u>R-426A</u>	<u>zeotrope</u>	<u>R-125/134a/600a/601a (5.1/93.0/1.3/0.6)</u>	<u>CG,OHH</u>	<u>A1</u>	<u>2-0-0^e</u>				

(Portions of table not shown do not change)

Reason: Update Table 1103.1 to be consistent with ASHRAE Addendum 34u-2004 and add new refrigerants for which ASHRAE Standard 34-2004 (and published addenda) has given a designation and safety classification.

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]TABLE 1103.1
REFRIGERANT CLASSIFICATION, AMOUNT AND TLV-TWA

Refrigerant	Chemical Formula	Chemical Name or Blend	Hazard Categories	Refrigerant Classification	Degrees of Hazard	Pounds per 1000 cubic feet	ppm	g/m3	TLV-TWA (ppm)
R-418A	zeotrope	R-290/22/152a (1.5/96.0/2.5)	CG,F,OHH	A1 A2	2-0-0 ^c				
R-419A	zeotrope	R-125/134a/E170 (77.0/19.0/4.0)	CG,F,OHH	A1 A2	2-0-0 ^c				
R-424A	zeotrope	R-125/134a/600a/600/601a (50.5/47.5/7.0/0.9/1.0/0.6)	CG,OHH	A1	2-0-0 ^c				
R-425A	zeotrope	R32/134a/227 ee (18.5/69.5/12.0)	CG,OHH	A1	2-0-0 ^c				
R-426A	zeotrope	R-125/134a/600a/601a (5.1/93.0/1.3/0.6)	CG,OHH	A1	2-0-0^c				

(Portions of proposal not shown remain unchanged)

Committee Reason: The code change updates existing data in Table 1103.1 and adds several new refrigerants. The modification corrects some errors in the original proposal and deletes R-426A which is not ready for inclusion in the code.

Assembly Action:

None

Final Hearing Results

M118-06/07

AM

Code Change No: M121-06/07

Original Proposal

Table 1202.4, Chapter 15

Proponent: Richard W. Bonds, P.E., Ductile Iron Pipe Research Association

1. Revise table as follows:

**TABLE 1202.4
HYDRONIC PIPE**

MATERIAL	STANDARD (see Chapter 15)
Ductile iron pipe	ANSI/AWWA C151/A21.51; ANSI/AWWA C115/A21.15

(Portions of table not shown do not change)

2. Add standards to Chapter 15 as follows:

AWWA

- C115—99 Standard for Flanged Ductile-iron Pipe with Ductile-iron or Gray-iron Threaded Flanges AWWA
- C151/A21.51—02 Standard for Ductile-iron Pipe, Centrifugally Cast for Water

Reason: Add ductile iron as a new approved piping material. Ductile iron pipe has been used regularly for hydronic piping for decades, especially hot water, chilled water, and ground source heat pump systems. Its omission was obviously an over site. The International Standard ISO9349-04 "Preinsulated Ductile Iron Pipeline Systems," which was first issued in 1991, attests to its usage for such installations. Also, there are numerous manufacturers of insulation for ductile iron pipe used for chilled water and hot water distribution. One such company is Perma-Pipe. An article published in the Fall/Winter 1992/1993 U.S. Piper magazine describes a district cooling system for the city of Cleveland, Ohio utilizing thousands of feet of ductile iron pipe and fittings.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This pipe material has been successfully used in the field for many years and should be included in the code. Acceptable standards were submitted to support this proposal.

Assembly Action:

None

Final Hearing Results

M121-06/07

AS

Code Change No: M122-06/07

Original Proposal

Table 1202.4, Table 1202.5, Chapter 15

Proponent: Jim Paschal, Bodycote Testing Group, representing Aquatherm

1. Revise tables as follows:

**TABLE 1202.4
HYDRONIC PIPE**

MATERIAL	STANDARD (see Chapter 15)
Polypropylene (PP) plastic pipe	ASTM F 2389

(Portions of table not shown do not change)

**TABLE 1202.5
HYDRONIC PIPE FITTINGS**

MATERIAL	STANDARD
Plastic	ASTM D 2466; ASTM D 2467; ASTM D 2468; ASTM F 438; ASTM F 439; ASTM F 877; ASTM F 2389

(Portions of table not shown do not change)

2. Add new standard to Chapter 15 as follows:

ASTM
F 2389 Specification for Pressure-rated Polypropylene (PP) Piping Systems

Reason: The purpose of this revision is to allow the use of PP piping materials in the IMC for hydronic applications.

PP systems have been used in hydronic applications for over 20 years in Europe, and are currently being used in the U.S. through local jurisdictional approvals. There are architects and design engineers that would like to use these materials once they are in the IMC. The PP systems provide some advantages in green building design and LEED certification not available with current materials in the IMC.

PP piping systems were added to the IPC and IRC in 2006. In the IRC, the material is acceptable for both hydronic and plumbing applications. The systems are also listed by ICC under Evaluation Report (ESR) 1613 for hydronic applications in accordance with the IMC. There is an ASTM standard for the products, F 2389, and the products are also listed by NSF International.

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 published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: This pipe material is currently in use for hydronic systems based on local jurisdiction acceptance. It is already included in the IRC for hydronic systems and should be added to the IMC. The standard submitted meets ICC criteria.

Assembly Action:

None

Final Hearing Results

M122-06/07

AS

Code Change No: M123-06/07

Original Proposal

Table 1202.5, Chapter 15

Proponent: Richard W. Bonds, P.E., Ductile Iron Pipe Research Association

1. Revise table as follows:

**TABLE 1202.5
HYDRONIC PIPE FITTINGS**

MATERIAL	STANDARD (see Chapter 15)
Ductile iron and gray iron	ANSI/AWWA C110/A21.10
Ductile iron	ANSI AWWA C153/A21.53

(Portions of table not shown do not change)

2. Add standards to Chapter 15 as follows:

ANSI/AWWA C110/A21.10
ANSI AWWA C153/A21.53

Standard for Ductile-iron and Gray-iron Fittings, 3 Inches through 48 Inches, for Water
Standard for Ductile-iron Compact Fittings for Water Service

Reason: Add ductile iron and gray iron fittings as a new approved piping material. Ductile iron and gray iron fittings have been used regularly for hydronic piping for decades, especially for hot water, chilled water, and ground source heat pump loop systems. Its omission was obviously an oversight. The International Standard ISO9349-04 "Preinsulated Ductile Iron Pipeline Systems," which was first issued in 1991, attests to its usage for such installations. Also, there are numerous manufacturers of insulation for ductile iron pipe used for chilled water and hot water distribution. One such company is Perma-Pipe. An article published in the Fall/Winter 1992/1993 U.S. Piper magazine describes a district cooling system for the city of Cleveland, Ohio utilizing thousands of feet of ductile iron pipe and fittings.

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 published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: This pipe material was approved to be added by M121-06/07. This change is needed to add the appropriate fitting standards. Acceptable standards were submitted to support this proposal.

Assembly Action:

None

Final Hearing Results

M123-06/07

AS

Code Change No: M124-06/07

Original Proposal

Section 1203.8.2 (New)**Proponent:** Sidney Cavanaugh, Cavanaugh Consulting, representing Nvent**Add new text as follows:****1203.8.2 Push-fit Joints.** Push-fit joints shall be installed in accordance with the manufacturer's instructions.**Reason:** This code change will recognize a new technology that offers a solder-less joining system that complies with appropriate copper pipe, copper tube and fittings standards. The fittings are listed by all major code organizations and CSA. They can be used on water distributions systems and hydronic heating systems.**Cost Impact:** The code change proposal will not increase the cost of construction.

Public Hearing Results

Committee Action:**Approved as Submitted****Committee Reason:** This change adds a new technology for mechanical joints. The joints have appropriate pressure and temperature ratings for use in hydronic systems.**Assembly Action:**

None

Final Hearing Results

M124-06/07

AS

Code Change No: M125-06/07

Original Proposal

Sections 1203.16, 1203.16.1, 1203.16.2 (New)**Proponent:** Jim Paschal, Bodycote Testing Group, representing Aquatherm**Add new text as follows:****1203.16 Polypropylene (PP) plastic.** Joints between PP plastic pipe and fittings shall comply with Sections 1203.16.1 and 1203.16.2.

1203.16.1 Heat-fusion joints. Heat fusion joints for polypropylene pipe and tubing joints shall be installed with socket-type heat-fused polypropylene fittings, electrofusion polypropylene fittings or by butt fusion. Joint surfaces shall be clean and free from moisture. The joint shall be undisturbed until cool. Joints shall be made in accordance with ASTM F 2389-06.

1203.16.2 Mechanical and compression sleeve joints. Mechanical and compression sleeve joints shall be installed in accordance with the manufacturer's instructions.

Reason: The purpose of this revision is to allow the use of PP piping materials in the IMC for hydronic applications.

PP systems have been used in hydronic applications for over 20 years in Europe, and are currently being used in the U.S. through local jurisdictional approvals. There are architects and design engineers that would like to use these materials once they are in the IMC. The PP systems provide some advantages in green building design and LEED certification not available with current materials in the IMC.

PP piping systems were added to the IPC and IRC in 2006. In the IRC, the material is acceptable for both hydronic and plumbing applications. The systems are also listed by ICC under Evaluation Report (ESR) 1613 for hydronic applications in accordance with the IMC. There is an ASTM standard for the products, F 2389, and the products are also listed by NSF International.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Polypropylene was added to the IMC for hydronic systems by M122-06/07. This change adds requirements for the fittings required for such installations. Acceptable standards were submitted to support this proposal.

Assembly Action:

None

Final Hearing Results

M125-06/07

AS

Code Change No: **M126-06/07**

Original Proposal

Section 1206.1.1

Proponent: Edward L. Andrews, II, Andrews Mechanical, Inc., representing himself

Delete without substitution:

~~**1206.1.1 Prohibited tee applications.** Fluid in the supply side of a hydronic system shall not enter a tee fitting through the branch opening.~~

Reason: Don't limit the designer in Section 1206.1.1. Primary and secondary piping and pumping is a prime reason to strike out this section. Also underscores balancing a manifold where you enter into the branch and out the barrels for balancing. It is more important to understand what velocity the fluid is traveling than which way it is coming into the tee fitting in hydronic piping. There is no safety reason for this code. The plumbing industry has been balancing parallel water heaters this way for years without any problems.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The use of this type of tee connection should be the decision of the designer based on the overall system layout and the fluid velocity. This fitting application has been used in the plumbing industry for years without problems.

Assembly Action:

None

Final Hearing Results

M126-06/07

AS

Code Change No: **M129-06/07**

Original Proposal

Sections: 1206.2; IRC M2101.2

Proponent: Mark Riley, City of Troy, MI, representing himself

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

PART I – IMC

Revise as follows:

1206.2 System drain down. Hydronic piping systems shall be designed and installed to permit the system to be drained. Where the system drains to the plumbing drainage system, the installation shall conform to the requirements of the *International Plumbing Code*.

Exception: The buried portions of systems embedded underground or under floors.

PART II – IRC

Revise as follows:

M2101.2 System drain down. Hydronic piping systems shall be installed to permit the system to be drained. When the system drains to the plumbing drainage system, the installation shall conform to the requirements of Chapters 25 through 32 of this code.

Exception: The buried portions of systems embedded underground or under floors.

Reason: To require a hydronic system to be drained down in underground applications would be impractical or impossible in these applications. There are other methods that can be used to remove the fluid from the system.

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

Public Hearing Results

PART I — IMC

Committee Action:

Approved as Submitted

Committee Reason: This change adds a needed exemption for hydronic systems that are difficult or impossible to drain.

Assembly Action:

None

PART II — IRC

Committee Action:

Approved as Submitted

Committee Reason: There are underground systems that cannot be drained or can only be drained with great difficulty. This proposal provides an exception for such installations.

Assembly Action:

None

Final Hearing Results

M129-06/07, Part I	AS
M129-06/07, Part II	AS

Code Change No: M130-06/07

Original Proposal

Sections: 1209.5 9 (New); IRC M2103.2 (New)

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

PART I – IMC

Add new text as follows:

1209.5 Thermal barrier required. Radiant floor heating systems shall be provided with a thermal barrier in accordance with Sections 1209.5.1 through 1209.5.4

1209.5.1 Slab on grade installation. Radiant piping utilized in slab on grade applications shall be provided with insulating materials installed beneath the piping having a minimum R-value of 5.

1209.5.2 Suspended floor installation, In suspended floor applications, insulation shall be installed in the joist bay cavity serving the heating space above and shall consist of materials having a minimum R-value of 19.

1209.5.3 A Thermal break required. Thermal breaks shall be provided consisting of asphalt expansion joint materials or similar insulating materials at a point where a heated slab meets a stem wall or other conductive slab.

1209.5.4 Thermal barrier material marking. Insulating materials utilized in thermal barriers shall be identified in accordance with Section 102.1.1 of the *International Energy Conservation Code*.

PART II – IRC

Add new text as follows:

M2103.2 Thermal barrier required. Radiant floor heating systems shall be provided with a thermal barrier in accordance with Sections M2103.2.1 through M2103.2.4

M2103.2.1 Slab on grade installation. Radiant piping utilized in slab on grade applications shall be provided with insulating materials installed beneath the piping having a minimum R-value of 5.

M2103.2.2 Suspended floor installation, In suspended floor applications, insulation shall be installed in the joist bay cavity serving the heating space above and shall consist of materials having a minimum R-value of 19.

M2103.2.3 A Thermal break required. Thermal breaks shall be provided consisting of asphalt expansion joint materials or similar insulating materials at a point where a heated slab meets a stem wall or other conductive slab.

M2103.2.4 Thermal barrier material marking. Insulating materials utilized in thermal barriers shall be identified in accordance with Section 102.1.1 of the *International Energy Conservation Code*.

Reason: Many tens of thousands of dollars can be spent on radiant heat systems that do not work properly due to the lack of thermal barriers. There's not much inspectors can do when they see piping lying in the dirt with no insulation beneath it. Radiant systems cannot operate as intended without a thermal barrier.

In the case of a slab on grade application, the ground will require a substantial charging of energy in order to hit a point of equilibrium where the thermal energy starts coming upwards instead of going downwards. Thermal energy flows from hot to cold, always and continuously. It substantially effects the over-all energy requirements and can seriously affect the performance of the system negatively and waste precious resources.

In the case of a suspended floor application, if the insulation is not properly applied, the lower floor (basement) will have a tendency to overheat and the floor that is trying to be heated will be under-heated. Once the system is installed without insulation its' too late and balancing is virtually impossible. The end result is that energy bills are high, comfort levels are low due to the lack of insulation, which in most cases can not be retrofitted to appease the situation. The lack of insulation can drive the operating costs as high as 25% depending upon the application and exposure. The paybacks for the consumer are huge considering the minimal cost of insulating materials such as 1-inch foam, which costs approximately .48/sq. ft. The energy code does not provide guidance in this situation. It is appropriate for this text to be included in this document as this is what is used by installers for the installation.

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

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposed method of providing a thermal break could violate the manufacturer's installation instructions. The insulation values proposed are probably too high; what was the technical justification for those values? The term "stem wall" is not a defined term in the code.

Assembly Action:

None

Committee Action:

Disapproved

Committee Reason: This proposal will conflict with the manufacturer's installation instructions and the energy requirements of Chapter 11.

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:

Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO) requests Approval as Modified by this Public Comment for Part I.

Modify proposal as follows:

1209.5 Thermal barrier required. Radiant floor heating systems shall be provided with a thermal barrier in accordance with Sections 1209.5.1, through 1209.5.4

1209.5.1 Slab on grade installation. Radiant piping utilized in slab on grade applications shall be provided with insulating materials installed beneath the piping having a minimum R-value of 5.

1209.5.2 Suspended floor installation. In suspended floor applications, insulation shall be installed in the joist bay cavity serving the heating space above and shall consist of materials having a minimum R-value of ~~49~~ **11**.

1209.5.3 Thermal break required. A thermal break shall be provided consisting of asphalt expansion joint materials or similar insulating materials at a point where a heated slab meets a ~~stem wall~~ **foundation wall** or other conductive slab.

1209.5.4 Thermal barrier material marking. Insulating materials utilized in thermal barriers shall be ~~identified in accordance with Section 102.1.1 of the International Energy Conservation Code~~ installed such that the manufacturer's R-value mark is readily observable upon inspection.

Exception: Insulation shall not be required in engineered systems where it can be demonstrated that the insulation will decrease the efficiency or have a negative effect on the installation.

Commenter's Reason: Asserting that installing insulation will violate manufacturer's installation instructions is baseless because boiler Manufacturer's instructions don't dictate distribution systems. They have no idea what's going to be employed. Some manufacturers such as KITEC for example, indicate that insulation is IMPERATIVE in all systems. Tubing manufacturers operating temperatures are not affected by the presence of or lack of insulation, but are a direct result of the boilers operating temperatures. In fact, the opposite case could be made, If the contractor does NOT insulate below the radiant panel, the only way to deliver human comfort is to RAISE the operating temperature of the fluid, thereby exposing the tubing to higher than normal temperatures than would be required had the insulation been in place. The end result is wasted energy and a system that cannot be balanced correctly.

It was felt that R-19 was too restrictive so it was lowered to R-11 in compliance with chapter 11 and the word "stem" had a regional description so it was changed to "foundation". The committee had concerns with referencing the IECC so language was extracted from chapter 11 to cover the intent. Also concerns were brought up about engineered systems that might not need or want insulation for various reasons. The exception addresses this concern for both documents.

Public Comment:

Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO) requests Approval as Modified by this Public Comment for Part II.

Modify proposal as follows:

M2103.2 Thermal barrier required. Radiant floor heating systems shall be provided with a thermal barrier in accordance with Sections M2103.2.1 through M2103.2.34.

M2103.2.1 Slab on grade installation. Radiant piping utilized in slab on grade applications shall be provided with insulating materials installed beneath the piping having a minimum R-value of 5.

M2103.2.2 Suspended floor installation. In suspended floor applications, insulation shall be installed in the joist bay cavity serving the heating space above and shall consist of materials having a minimum R-value of ~~4~~ 11.

M2103.2.3 Thermal break required. A thermal break shall be provided consisting of asphalt expansion joint materials or similar insulating materials at a point where a heated slab meets a ~~stem wall~~ foundation wall or other conductive slab.

M2103.2.4 Thermal barrier material marking. Insulating materials utilized in thermal barriers shall be ~~identified in accordance with Section 402.4.1 of the International Energy Conservation Code~~ installed such that the manufacturer's R-value mark is readily observable upon inspection.

Exception: Insulation shall not be required in engineered systems where it can be demonstrated that the insulation will decrease the efficiency or have a negative effect on the installation.

Commenter's Reason: Asserting that installing insulation will violate manufacturers installation instructions is baseless because boiler Manufacturer's instructions don't dictate distribution systems. They have no idea what's going to be employed. Some manufacturers such as KITEC for example, indicate that insulation is IMPERATIVE in all systems. Tubing manufacturers operating temperatures are not affected by the presence of or lack of insulation, but are a direct result of the boilers operating temperatures. In fact, the opposite case could be made, If the contractor does NOT insulate below the radiant panel, the only way to deliver human comfort is to RAISE the operating temperature of the fluid, thereby exposing the tubing to higher than normal temperatures than would be required had the insulation been in place. The end result is wasted energy and a system that cannot be balanced correctly.

It was felt that R-19 was too restrictive so it was lowered to R-11 in compliance with chapter 11 and the word "stem" had a regional description so it was changed to "foundation". The committee had concerns with referencing the IECC so language was extracted from chapter 11 to cover the intent. Also concerns were brought up about engineered systems that might not need or want insulation for various reasons. The exception addresses this concern for both documents.

Final Hearing Results

**M130-06/07 Part I
M130-06/07 Part II**

**AMPC1
AMPC1**

Code Change No: **M132-06/07**

Original Proposal

Chapter 15

Proponent: Standards writing organizations as listed below.

Revise standards as follows:

ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. 1791 Tullie Circle, NE Atlanta, GA 30329-2305
Standard reference number	Title
15- 2004 <u>2004</u>	Safety Standard for Refrigeration Systems
ASHRAE- 2005 <u>2004</u>	ASHRAE Fundamentals Handbook - 2005 <u>2004</u>
ASSE	American Society of Sanitary Engineering 901 Canterbury Road, Suite A Westlake, OH 44145
Standard reference number	Title
1017- 2003 <u>4999</u>	Performance Requirements for Temperature Actuated Mixing Valves for Hot Water Distribution Systems
ASTM	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428-2959
Standard reference number	Title
A 53/A 53M-05 <u>02</u>	Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
A 106/A 106M-04b	Specification for Seamless Carbon Steel Pipe for High-Temperature Service
A 420/A 420M-05 <u>04</u>	Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service
B 32-04 <u>03</u>	Specification for Solder Metal
C 411- 05 <u>97</u>	Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation
D 56- 05 <u>02a</u>	Test Method for Flash Point by Tag Closed Tester
D 1527-99(2005) <u>e04</u>	Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedules 40 and 80
D 1693- 05 <u>04</u>	Test Method for Environmental Stress-Cracking of Ethylene Plastics
D 2235- 04 <u>04</u>	Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
D 1785- 05 <u>04</u>	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120
D 2241- 05 <u>04a</u>	Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR-Series)
D 2282-99(2005) <u>e04</u>	Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (SDR-PR)

CODE CHANGES RESOURCE COLLECTION — INTERNATIONAL MECHANICAL CODE

D 2466-05 02	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D 2467-05 04	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D 2513-05 04a	Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings
D 2564-04 02	Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems
D 2683-04 98	Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
D 2846/D 2846M-99e01	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems
D 3278-96(2004)e01	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
E 119-05a 00e	Test Methods for Fire Tests of Building Construction and Materials
E 136-04 99e01	Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C
E 2231-02e01 02	Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess to Surface Burning Characteristics
F 439-05 02e01	Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F 442/F 442M-99(2005)	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)
F 876-05 04	Specification for Crosslinked Polyethylene (PEX) Tubing
F 877-05 02ae01	Specification for Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
F 1281-05 03	Specification for Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe
F 1476-01 95a	Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, MA 02269-9101
Standard reference number	Title
91-04 99	Exhaust Systems for Air Conveying, of Vapors, Gases, Mists, and Noncombustible Particulate Solids
211-03 06	Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances
SMACNA	Sheet Metal and Air Conditioning Contractors National Association, Inc. 4021 Lafayette Center Drive Chantilly, VA 20151-1209
Standard reference number	Title
SMACNA/ANSI (2005) 95	HVAC Duct Construction Standards-Metal and Flexible (2005)
UL	Underwriters Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062
Standard reference number	Title
103-01	Factory-Built Chimneys for Residential Type and Building Heating Appliances-with Revisions through December 2003 2005
174-04	Household Electric Storage Tank Water Heaters—with Revisions through October 1999 November 2005
181-96 05	Factory-Made Air Ducts and Air Connectors—with Revisions through May 2003
181A- 98 2005	Closure Systems for Use with Rigid Air Ducts and Air Connectors -with Revisions through December 1998
181B- 95 2005	Closure Systems for Use with Flexible Air Ducts and Air Connectors -with Revisions through August 2003
207-2001	Refrigerant-Containing Components and Accessories, Nonelectrical—with Revisions through November 2004

268-96	Smoke Detectors for Fire Protective Signaling Systems—with Revision through January 1999 October 2003
268A-98	Smoke Detectors for Duct Application—with Revisions through September 2001 April 2003
412-2004	Refrigeration Unit Coolers-with Revisions through November 2001
471-1995 2006	Commercial Refrigerators and Freezers—with Revisions through November 2001 February 2006
641-95	Type L Low-Temperature Venting Systems— with Revisions through April 1999 August 2005
726-95 98	Oil-Fired Boiler Assemblies —with Revisions through January 2001 February 2006
731-1995	Oil-Fired Unit Heaters with Revisions through February 2006
732-1995	Oil-Fired Storage Tank Water Heaters - with Revisions through January 1999 February 2005
834-04	Heating, Water Supply, and Power Boilers-Electric-with Revisions through November 1998
867-00	Electrostatic Air Cleaners – with Revisions through May February 2004
900-94	Air Filter Units — with Revisions through October 1999
1240-2005 1994	Electric Commercial Clothes-with Revisions through May 2000
1820-2004 1997	Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics-with Revisions through March 1999
1887-2004 1996	Fire Test of Plastic Sprinkler Pipe and Visible Flame and Smoke Characteristics--with Revisions through June 1999
1995-2005 1998	Heating and Cooling Equipment with Revisions through August 1999
2158-1997	Outline of Investigation for Electric Clothes Dryer – with Revisions through May 2004

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 IMC 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 updates the existing standards referenced in the code.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

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

Public Comment:

Note: The following individuals separately submitted public comments with the same proposed modification. Their separate reason statements are provided below the proposed modification.

Tony Crimi, A.C. Consulting Solutions Inc., representing the International Firestop Council, requests Approval as Modified by this Public Comment.

Bob Eugene, Underwriters Laboratories Inc., representing same, requests Approval as Modified by this Public Comment.

Modify proposal as follows:

UL
1978-95 05 Grease Ducts

(Portion of proposal not shown remains unchanged)

Commenter-s Reason (Crimi): To further modify this proposal by updating to the most current edition of UL1978. No other changes have been made to the “As submitted” proposal.

When this proposed change was submitted, the proponents seem to have omitted to update the reference in Chapter 15 to the most current edition of the UL 1978 standard, which is dated January 2005. The edition currently referenced in the IMC is the 1995 edition. The UL Standards Technical Panel responsible for UL1978 has been fairly active over the past few years in updating this Standard, and this work should be included in the Code change proposal.

Commenter-s Reason (Eugene): Through an oversight, UL 1978 was not included in the Standards Writing Organizations proposal to update referenced standards. The most recent designation of ANSI/UL 1978 as an American National Standard (ANSI) occurred on January 4, 2005.

Final Hearing Results

M132-06/07

AMPC1

2006/2007 BUILDING CODE DOCUMENTATION

IBC FIRE SAFETY**Code Change No: FS8-06/07****Original Proposal****Sections: 702.1; IMC 506.3.10****Proponent:** Bob Eugene, Underwriters Laboratories Inc.**THIS PROPOSAL IS ON THE AGENDA OF THE IBC FIRE SAFETY AND THE IMC CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.****PART I – IBC FIRE SAFETY****Revise definitions as follows:**

F RATING. The time period that the through-penetration firestop system limits the spread of fire through the penetration when tested in accordance with ASTM E 814 or UL 1479.

T RATING. The time period that the penetration firestop system, including the penetrating item, limits the maximum temperature rise to 325°F (163°C) above its initial temperature through the penetration on the nonfire side when tested in accordance with ASTM E 814 or UL 1479.

THROUGH-PENETRATION FIRESTOP SYSTEM. An assemblage of specific materials or products that are designed, tested and fire-resistance rated to resist for a prescribed period of time the spread of fire through penetrations. The F and T rating criteria for penetration firestop systems shall be in accordance with ASTM E 814 or UL 1479. See definitions of “F rating” and “T rating.”

PART II – IMC

506.3.10 Grease duct enclosure. A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. Ducts shall be enclosed in accordance with the *International Building Code* requirements for shaft construction. The duct enclosure shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings. Clearance from the duct to the interior surface of enclosures of combustible construction shall be not less than 18 inches (457 mm). Clearance from the duct to the interior surface of enclosures of noncombustible construction or gypsum wall board attached to noncombustible structures shall be not less than 6 inches (152 mm). The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring or systems.

Exceptions:

1. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system classified in accordance with ASTM E 814 or UL 1479 and having an “F” and “T” rating equal to the fire-resistance rating of the assembly being penetrated and where the surface of the duct is continuously covered on all sides from the point at which the duct penetrates a ceiling, wall or floor to the outlet terminal with a classified and labeled material, system, method of construction or product specifically evaluated for such purpose, in accordance with ASTM E 2336. Exposed ductwrap systems shall be protected where subject to physical damage.

2. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system classified in accordance with ASTM E 814 or UL 1479 and having an “F” and “T” rating equal to the fire resistance rating of the assembly being penetrated and where a prefabricated grease duct enclosure assembly is protected on all sides from the point at which the duct penetrates a ceiling, wall or floor to the outlet terminal with a classified and labeled prefabricated system specifically evaluated for such purposes in accordance with UL 2221.
3. A duct enclosure shall not be required for a grease duct that penetrates only a nonfire-resistance-rated roof/ceiling assembly.

Reason: (Part I) The purpose of this code change is to include reference to UL 1479 as an alternate to ASTM E 814 in the definitions Section of Chapter 7 of the International Building Code. UL 1479 is currently referenced for walls in Section 712.3.1.2; for horizontal assemblies in Section 712.4.1.1.2; and for air leakage in smoke barriers in Section 712.5.

Both Standards are referenced together in all other pertinent sections of the International Building Code and the International Residential Code. The fire testing and hose stream testing portions of 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.

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 814 or UL 1479.

UL 1479 is an ANSI approved standard. UL 1479 requirements cover through-penetration firestops of various materials and construction that are intended for use in openings in fire resistive wall or floor-ceiling assemblies, or both.

(Part II) The purpose of this code change is to include reference to UL 1479 as an alternate to ASTM E 814 in the International Mechanical Code.

Both Standards are referenced together in all other pertinent sections of the International Building Code and the International Residential Code. The fire testing and hose stream testing portions of 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.

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 814 or UL 1479.

UL 1479 is an ANSI approved standard. UL 1479 requirements cover through-penetration firestops of various materials and construction that are intended for use in openings in fire resistive wall or floor-ceiling assemblies, or both.

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

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

Committee Action:

Approved as Submitted

Committee Reason: The addition of this standard provides an alternative means of demonstrating compliance with the code. Having an additional option provides flexibility and additional design options. UL 1479 is already used in the code in Section 712 and the standard addresses air leakage while the current referenced standard does not.

Assembly Action:

None

PART II — IMC

Committee Action:

Approved as Submitted

Committee Reason: The proposed change provides more flexibility for approving firestop material by adding another nationally recognized standard.

Assembly Action:

None

Final Hearing Results

FS8-06/07, Part I	AS
FS8-06/07, Part II	AS

Code Change No: **FS10-06/07**

Original Proposal

Sections 410.3.5.2, 703.2, 703.2.1, 703.2.3, 703.3, 704.7, 704.9, 706.2.1, 706.7, 711.3.2, 712.3.1, 712.4.1.1, 713.1, 713.4, 714.7, 715.2, 716.5.2 (IMC 607.5.2), 716.5.3 (IMC 607.5.5), 716.6.1 (IMC 607.6.1), 716.6.2 (IMC 607.6.2.1), Table 720.1(1), 1407.10.2, 2103.2, 2603.4, 2603.5.1, Chapter 35 (IMC Chapter 15); IRC R314.1.2, Chapter 43 (New)

Proponent: Bob Eugene, Underwriters Laboratories Inc.

THIS PROPOSAL IS ON THE AGENDA OF THE IBC FIRE SAFETY, GENERAL AND STRUCTURAL AND THE IRC BUILDING/ENERGY CODE DEVELOPMENT COMMITTEES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IBC FIRE SAFETY

Revise as follows:

703.2 Fire-resistance ratings. The fire-resistance rating of building elements shall be determined in accordance with the test procedures set forth in ASTM E 119 or UL 263, or in accordance with Section 703.3. Where materials, systems or devices that have not been tested as part of a fire-resistance-rated assembly are incorporated into the assembly, sufficient data shall be made available to the building official to show that the required fire-resistance rating is not reduced. Materials and methods of construction used to protect joints and penetrations in fire-resistance-rated building elements shall not reduce the required fire-resistance rating.

Exception: In determining the fire-resistance rating of exterior bearing walls, compliance with the ASTM E 119 or UL 263 criteria for unexposed surface temperature rise and ignition of cotton waste due to passage of flame or gases is required only for a period of time corresponding to the required fire-resistance rating of an exterior nonbearing wall with the same fire separation distance, and in a building of the same group. When the fire-resistance rating determined in accordance with this exception exceeds the fire-resistance rating determined in accordance with ASTM E 119 or UL 263, the fire exposure time period, water pressure, and application duration criteria for the hose stream test of ASTM E 119 or UL 263 shall be based upon the fire-resistance rating determined in accordance with this exception.

703.2.1 Nonsymmetrical wall construction. Interior walls and partitions of nonsymmetrical construction shall be tested with both faces exposed to the furnace, and the assigned fire-resistance rating shall be the shortest duration obtained from the two tests conducted in compliance with ASTM E 119 or UL 263. When evidence is furnished to show that the wall was tested with the least fire-resistant side exposed to the furnace, subject to acceptance of the building official, the wall need not be subjected to tests from the opposite side (see Section 704.5 for exterior walls).

703.2.3 Restrained classification. Fire-resistance-rated assemblies tested under ASTM E 119 shall not be considered to be restrained unless evidence satisfactory to the building official is furnished by the registered design professional showing that the construction qualifies for a restrained classification in accordance with ASTM E 119 or UL 263. Restrained construction shall be identified on the plans.

703.3 Alternative methods for determining fire resistance. The application of any of the alternative methods listed in this section shall be based on the fire exposure and acceptance criteria specified in ASTM E 119 or UL 263. The required fire resistance of a building element shall be permitted to be established by any of the following methods or procedures:

1. Fire-resistance designs documented in approved sources.
2. Prescriptive designs of fire-resistance-rated building elements as prescribed in Section 720.
3. Calculations in accordance with Section 721.
4. Engineering analysis based on a comparison of building element designs having fire-resistance ratings as determined by the test procedures set forth in ASTM E 119 or UL 263.
5. Alternative protection methods as allowed by Section 104.11.

704.7 Unexposed surface temperature. Where protected openings are not limited by Section 704.8, the limitation on the rise of temperature on the unexposed surface of exterior walls as required by ASTM E 119 or UL 263 shall not apply. Where protected openings are limited by Section 704.8, the limitation on the rise of temperature on the unexposed surface of exterior walls as required by ASTM E 119 or UL 263 shall not apply provided that a correction is made for radiation from the unexposed exterior wall surface in accordance with the following formula:

$$A_e = A + (A_f \times F_{eo}) \quad \text{(Equation 7-1)}$$

where:

A_e = Equivalent area of protected openings.

A = Actual area of protected openings.

A_f = Area of exterior wall surface in the story under consideration exclusive of openings, on which the temperature limitations of ASTM E 119 or UL 263 for walls are exceeded.

F_{eo} = An "equivalent opening factor" derived from Figure 704.7 based on the average temperature of the unexposed wall surface and the fire-resistance rating of the wall.

704.9 Vertical separation of openings. Openings in exterior walls in adjacent stories shall be separated vertically to protect against fire spread on the exterior of the buildings where the openings are within 5 feet (1524 mm) of each other horizontally and the opening in the lower story is not a protected opening with a fire protection rating of not less than 3/4 hour. Such openings shall be separated vertically at least 3 feet (914 mm) by spandrel girders, exterior walls or other similar assemblies that have a fire-resistance rating of at least 1 hour or by flame barriers that extend horizontally at least 30 inches (762 mm) beyond the exterior wall. Flame barriers shall also have a fire-resistance rating of at least 1 hour. The unexposed surface temperature limitations specified in ASTM E 119 or UL 263 shall not apply to the flame barriers or vertical separation unless otherwise required by the provisions of this code.

Exceptions:

1. This section shall not apply to buildings that are three stories or less in height.
2. This section shall not apply to buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Open parking garages.

706.2.1 Fire-resistance-rated glazing. Fire-resistance-rated glazing, when tested in accordance with ASTM E 119 or UL 263 and complying with the requirements of Section 706, shall be permitted. Fire-resistance-rated glazing shall bear a label or other identification showing the name of the manufacturer, the test standard and the identifier "W-XXX," where the "XXX" is the fire-resistance rating in minutes. Such label or identification shall be issued by an approved agency and shall be permanently affixed to the glazing.

706.7 Openings. Openings in a fire barrier wall 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 (15m²). 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 fire areas are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Fire doors 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 windows permitted in atrium separation walls shall not be limited to a maximum aggregate width of 25 percent of length of the wall.

711.3.2 Access doors. Access doors shall be permitted in ceilings of fire-resistance-rated floor/ceiling and roof/ceiling assemblies provided such doors are tested in accordance with ASTM E 119 or UL 263 as horizontal assemblies and labeled by an approved agency for such purpose.

712.3.1 Through penetrations. Through penetrations of fire-resistance-rated walls shall comply with Section 712.3.1.1 or 712.3.1.2.

Exception: Where the penetrating items are steel, ferrous or copper pipes, tubes or conduits, the annular space between the penetrating item and the fire-resistance-rated wall is permitted to be protected as follows:

1. In concrete or masonry walls where the penetrating item is a maximum 6-inch (152 mm) nominal diameter and the area of the opening through the wall does not exceed 144 square inches (0.0929 m²), concrete, grout or mortar is permitted where it is installed the full thickness of the wall or the thickness required to maintain the fire-resistance rating; or
2. The material used to fill the annular space shall prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E 119 or UL 263 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.

712.4.1.1 Through penetrations. Through penetrations of fire-resistance-rated horizontal assemblies shall comply with Section 712.4.1.1.1 or 712.4.1.1.2.

Exceptions:

1. Penetrations by steel, ferrous or copper conduits, pipes, tubes or vents or concrete or masonry items through a single fire-resistance-rated floor assembly where the annular space is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E 119 or UL 263 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated. Penetrating items with a maximum 6-inch (152 mm) nominal diameter shall not be limited to the penetration of a single fire-resistance-rated floor assembly, provided the aggregate area of the openings through the assembly does not exceed 144 square inches (92 900 mm²) in any 100 square feet (9.3 m²) of floor area.
2. Penetrations in a single concrete floor by steel, ferrous or copper conduits, pipes, tubes or vents with a maximum 6-inch (152 mm) nominal diameter, provided the concrete, grout or mortar is installed the full thickness of the floor or the thickness required to maintain the fire-resistance rating. The penetrating items shall not be limited to the penetration of a single concrete floor, provided the area of the opening through each floor does not exceed 144 square inches (92 900 mm²).
3. Penetrations by listed electrical boxes of any material, provided such boxes have been tested for use in fire-resistance-rated assemblies and installed in accordance with the instructions included in the listing.

713.1 General. Joints installed in or between fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system designed to resist the passage of fire for a time period not less than the required fire-resistance rating of the wall, floor or roof in or between which it is installed. Fire-resistant joint systems shall be tested in accordance with Section 713.3. 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.

Exception: Fire-resistant joint systems shall not be required for joints in all of the following locations:

1. Floors within a single dwelling unit.
2. Floors where the joint is protected by a shaft enclosure in accordance with Section 707.
3. Floors within atriums where the space adjacent to the atrium is included in the volume of the atrium for smoke control purposes.
4. Floors within malls.
5. Floors within open parking structures.
6. Mezzanine floors.
7. Walls that are permitted to have unprotected openings.
8. Roofs where openings are permitted.
9. Control joints not exceeding a maximum width of 0.625 inch (15.9 mm) and tested in accordance with ASTM E 119 or UL 263.

713.4 Exterior curtain wall/floor intersection. Where fire resistance-rated floor or floor/ceiling assemblies are required, voids created at the intersection of the exterior curtain wall assemblies and such floor assemblies shall be sealed with an approved material or system to prevent the interior spread of fire. Such material or systems shall be securely installed and capable of preventing the passage of flame and hot gases sufficient to ignite cotton waste where subjected either to ASTM E 119 or UL 263 time-temperature fire conditions under a minimum positive pressure

differential of 0.01 inch (0.254 mm) of water column (2.5 Pa) or installed as tested in accordance with ASTM E 2307 for the time period at least equal to the fire-resistance rating of the floor assembly. Height and fire-resistance requirements for curtain wall spandrels shall comply with Section 704.9.

714.7 Seismic isolation systems. Fire-resistance ratings for the isolation system shall meet the fire-resistance rating required for the columns, walls or other structural elements in which the isolation system is installed in accordance with Table 601. Isolation systems required to have a fire-resistance rating shall be protected with approved materials or construction assemblies designed to provide the same degree of fire resistance as the structural element in which it is installed when tested in accordance with ASTM E 119 or UL 263 (see Section 703.2).

Such isolation system protection applied to isolator units shall be capable of retarding the transfer of heat to the isolator unit in such a manner that the required gravity load-carrying capacity of the isolator unit will not be impaired after exposure to the standard time-temperature curve fire test prescribed in ASTM E 119 or UL 263 for a duration not less than that required for the fire-resistance rating of the structure element in which it is installed.

Such isolation system protection applied to isolator units shall be suitably designed and securely installed so as not to dislodge, loosen, sustain damage or otherwise impair its ability to accommodate the seismic movements for which the isolator unit is designed and to maintain its integrity for the purpose of providing the required fire-resistance protection.

715.2 Fire-resistance-rated glazing. Labeled fire-resistance- rated glazing tested as part of a fire-resistance-rated wall assembly in accordance with ASTM E 119 or UL 263 shall not be required to comply with this section.

716.5.2 (IMC 607.5.2) Fire barriers. Ducts and air transfer openings of fire barriers shall be protected with approved fire dampers installed in accordance with their listing. Ducts and air transfer openings shall not penetrate exit enclosures and exit passageways except as permitted by Sections 1020.1.2 and 1021.5, respectively.

Exception: Fire dampers are not required at penetrations of fire barriers where any of the following apply:

1. Penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire-resistance rated assembly.
2. Ducts are used as part of an approved smoke control system in accordance with Section 909 and where the use of a fire damper would interfere with the operation of a smoke control system.
3. Such walls are penetrated by ducted HVAC systems, have a required fire-resistance rating of 1 hour or less, are in areas of other than Group Hand are in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. For the purposes of this exception, a ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure's HVAC system. Such a duct system shall be constructed of sheet steel not less than 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals.

716.5.3 (IMC 607.5.5) Shaft enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire dampers are not required at penetrations of shafts where:
 - 1.1. Steel exhaust subducts are extended at least 22 inches (559 mm) vertically in exhaust shafts, provided there is a continuous airflow upward to the outside; or
 - 1.2. Penetrations are tested in accordance with ASTM E 119 or UL 263 as part of the rated assembly; or
 - 1.3. Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 and where the fire damper will interfere with the operation of the smoke control system; or
 - 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
2. In Group B and R occupancies, equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, smoke dampers are not required at penetrations of shafts where:
 - 2.1. Kitchen, clothes dryer, bathroom and toilet room exhaust openings are installed with steel exhaust subducts, having a wall thickness of at least 0.019 inch (0.48 mm); and
 - 2.2. That extend at least 22 inches (559 mm) vertically; and
 - 2.3. An exhaust fan is installed at the upper terminus of the shaft that is, powered continuously in accordance with the provisions of Section 909.11, so as to maintain a continuous upward airflow to the outside.

3. Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system.

716.6.1 (IMC 607.6.1) Through penetrations. In occupancies other than Groups I-2 and I-3, a duct constructed of approved materials in accordance with the *International Mechanical Code* that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection, provided a listed fire damper is installed at the floor line or the duct is protected in accordance with Section 712.4. For air transfer openings, see Exception 7 to Section 707.2.

Exception: A duct is permitted to penetrate three floors or less without a fire damper at each floor, provided it meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel not less than 0.019 inch (0.48 mm) (26 gage) in thickness.
2. The duct shall open into only one dwelling or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.
3. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m²) in any 100 square feet (9.3 m²) of floor area.
4. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.
5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a listed ceiling radiation damper installed in accordance with Section 716.6.2.1.

716.6.2.1 (IMC 607.6.2.1) Ceiling radiation dampers. Ceiling radiation dampers shall be tested in accordance with UL 555C and installed in accordance with the manufacturer's installation instructions and listing. Ceiling radiation dampers are not required where either of the following applies:

1. Tests in accordance with ASTM E 119 or UL 263 have shown that ceiling radiation dampers are not necessary in order to maintain the fire-resistance rating of the assembly.
2. Where exhaust duct penetrations are protected in accordance with Section 712.4.1.2, are located within the cavity of a wall and do not pass through another dwelling unit or tenant space.

TABLE 720.1(1)
MINIMUM PROTECTION OF STRUCTURAL PARTS BASED ON TIME PERIODS
FOR VARIOUS NONCOMBUSTIBLE INSULATING MATERIALS^m

(Portions of table not shown do not change)

For SI: 1 inch = 25.4 mm, 1 square inch = 645.2 mm², 1 cubic foot = 0.0283 m³.

- a. Reentrant parts of protected members to be filled solidly.
- b. Two layers of equal thickness with a 3/4-inch airspace between.
- c. For all of the construction with gypsum wallboard described in Table 720.1(1), gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided attachment is identical to that specified for the wallboard and the joints on the face layer are reinforced, and the entire surface is covered with a minimum of 1/16-inch gypsum veneer plaster.
- d. An approved adhesive qualified under ASTM E 119 or UL 263.
- e. Where lightweight or sand-lightweight concrete having an oven-dry weight of 110 pounds per cubic foot or less is used, the tabulated minimum cover shall be permitted to be reduced 25 percent, except that in no case shall the cover be less than 3/4 inch in slabs or 1 1/2 inches in beams or girders.
- f. For solid slabs of siliceous aggregate concrete, increase tendon cover 20 percent.
- g. Adequate provisions against spalling shall be provided by U-shaped or hooped stirrups spaced not to exceed the depth of the member with a clear cover of 1 inch.
- h. Prestressed slabs shall have a thickness not less than that required in Table 720.1(3) for the respective fire resistance time period.
- i. Fire coverage and end anchorages shall be as follows: Cover to the prestressing steel at the anchor shall be 1/2 inch greater than that required away from the anchor. Minimum cover to steel-bearing plate shall be 1 inch in beams and 3/4 inch in slabs.

- j. For beam widths between 8 inches and 12 inches, cover thickness shall be permitted to be determined by interpolation.
- k. Interior spans of continuous slabs, beams and girders shall be permitted to be considered restrained.
- l. For use with concrete slabs having a comparable fire endurance where members are framed into the structure in such a manner as to provide equivalent performance to that of monolithic concrete construction.
- m. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in GA 600 shall be accepted as if herein listed.
- n. No additional insulating material is required on the exposed outside face of the column flange to achieve a 1-hour fire-resistance rating.

1407.10.2 Thermal barriers. MCM shall be separated from the interior of a building by an approved thermal barrier consisting of 0.5-inch (12.7 mm) gypsum wallboard or equivalent thermal barrier material that will limit the average temperature rise of the unexposed surface to not more than 250°F (121°C) after 15 minutes of fire exposure in accordance with the standard time-temperature curve of ASTM E 119 or UL 263. The thermal barrier shall be installed in such a manner that it will remain in place for not less than 15 minutes based on a test conducted in accordance with UL 1715.

2603.4 Thermal barrier. Except as provided for in Sections 2603.4.1 and 2603.9, foam plastic shall be separated from the interior of a building by an approved thermal barrier of 0.5-inch (12.7 mm) gypsum wallboard or equivalent thermal barrier material that will limit the average temperature rise of the unexposed surface to not more than 250 F (120 C) after 15 minutes of fire exposure, complying with the standard time-temperature curve of ASTM E 119 or UL 263. The thermal barrier shall be installed in such a manner that it will remain in place for 15 minutes based on FM 4880, UL 1040, NFPA 286 or UL 1715. Combustible concealed spaces shall comply with Section 717.

2603.5.1 Fire-resistance-rated walls. Where the wall is required to have a fire-resistance rating, data based on tests conducted in accordance with ASTM E 119 or UL 263 shall be provided to substantiate that the fire-resistance rating is maintained.

PART II – IBC GENERAL

Revise as follows:

410.3.5.2 Fire test. A sample curtain with a minimum of two vertical seams shall be subjected to the standard fire test specified in ASTM E 119 or UL 263 for a period of 30 minutes. The curtain shall overlap the furnace edges by an amount that is appropriate to seal the top and sides. The curtain shall have a bottom pocket containing a minimum of 4 pounds per linear foot (5.9 kg/m) of batten. The exposed surface of the curtain shall not glow, and flame or smoke shall not penetrate the curtain during the test period. Unexposed surface temperature and hose stream test requirements are not applicable to the proscenium fire safety curtain test.

PART III – IBC STRUCTURAL

1. Revise as follows:

2103.2 Clay or shale masonry units. Clay or shale masonry units shall conform to the following standards: ASTM C 34 for structural clay load-bearing wall tile; ASTM C56 for structural clay nonload-bearing wall tile; ASTM C 62 for building brick (solid masonry units made from clay or shale); ASTM C 1088 for solid units of thin veneer brick; ASTM C 126 for ceramic-glazed structural clay facing tile, facing brick and solid masonry units; ASTM C 212 for structural clay facing tile; ASTM C 216 for facing brick (solid masonry units made from clay or shale); ASTM C 652 for hollow brick (hollow masonry units made from clay or shale); and ASTM C 1405 for glazed brick (single-fired solid brick units).

Exception: Structural clay tile for nonstructural use in fireproofing of structural members and in wall furring shall not be required to meet the compressive strength specifications. The fire-resistance rating shall be determined in accordance with ASTM E 119 or UL 263 and shall comply with the requirements of Table 602.

2. Add standard to Chapter 35 as follows:

UL

UL 263-03 Standard for Fire Test of Building Construction and Materials

PART IV – IRC BUILDING/ENERGY

Revise as follows:

R314.4 Thermal barrier. Unless otherwise allowed in Section R314.5 or Section R314.6, foam plastic shall be separated from the interior of a building by an approved thermal barrier of minimum 0.5 inch (12.7 mm) gypsum wallboard or an approved finish material equivalent to a thermal barrier material that will limit the average temperature rise of the unexposed surface to no more than 250°F (139°C) after 15 minutes of fire exposure complying with the ASTM E 119 or UL 263 standard time temperature curve. The thermal barrier shall be installed in such a manner that it will remain in place for 15 minutes based on NFPA 286 with the acceptance criteria of Section R315.4, FM 4880, UL 1040 or UL 1715.

R317.1 Two-family dwellings. Dwelling units in two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than a 1-hour fire-resistance rating when tested in accordance with ASTM E 119 or UL 263. Fire-resistance-rated floor-ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of ½ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through attic spaces when the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board and an attic draft stop constructed as specified in Section R502.12.1 is provided above and along the wall assembly separating the dwellings. The structural framing supporting the ceiling shall also be protected by not less than ½-inch (12.7 mm) gypsum board or equivalent.

R317.3.1 Through penetrations. Through penetrations of fire-resistance-rated wall or floor assemblies shall comply with Section R317.3.1.1 or R317.3.1.2.

Exception: Where the penetrating items are steel, ferrous or copper pipes, tubes or conduits, the annular space shall be protected as follows:

1. In concrete or masonry wall or floor assemblies where the penetrating item is a maximum 6 inches (152 mm) nominal diameter and the area of the opening through the wall does not exceed 144 square inches (92 900 mm²), concrete, grout or mortar is permitted where installed to the full thickness of the wall or floor assembly or the thickness required to maintain the fire-resistance rating.
2. The material used to fill the annular space shall prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 or UL 263 time temperature fire conditions under a minimum positive pressure differential of 0.01 inch of water (3 Pa) at the location of the penetration for the time period equivalent to the fire resistance rating of the construction penetrated.

Reason: Add a direct reference to UL 263 where ASTM E119 is currently referenced.

The purpose of this code change is to include reference to UL 263 as an alternate to ASTM E 119, which is currently referenced in these code sections. 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 263 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 119 or UL 263.

These fire tests are applicable to assemblies of masonry units and to composite assemblies of structural materials for buildings, including bearing and other walls and partitions, columns, girders, beams, slabs, and composite slab and beam assemblies for floors and roofs. They are also applicable to other assemblies and structural units that constitute permanent integral parts of a finished building.

Bibliography: UL 263

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 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 on FS8-06/07 the addition of the new standard does provide additional flexibility for the designer and building official. While there was some uncertainty regarding whether the UL standard has incorporated some of the recent changes that have been made to the ASTM E 119 standard, the proposed UL standard does match up with the currently referenced E 119 standard.

Assembly Action:

None

PART II — IBC GENERAL

Committee Action:

Approved as Submitted

Committee Reason: The inclusion of UL 263 as an alternate and equivalent standard to ASTM 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 change adds a needed reference to a fire test standard.

Assembly Action:

None

PART IV — IRC

Committee Action:

Approved as Submitted

Committee Reason: The new reference to the Standard UL 263 adds depth to the code and provides an alternative to ASTM E119. 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 263.

Assembly Action:

None

Final Hearing Results

FS10-06/07, Part I	AS
FS10-06/07, Part II	AS
FS10-06/07, Part III	AS
FS10-06/07, Part IV	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)

Proponent: Philip Brazil, P.E, Reid Middleton, Inc., representing himself

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

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 4021.4~~ 1021.3.

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; ~~or.~~
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 not less than 2-hour fire barriers walls with a fire-resistance rating of not less than 2 hours constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. 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~~ Section 903.3.1.1 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~~ Section 903.3.1.1 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 503.1.2.
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~~ Section 903.3.1.1.

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 areas of refuge connected by a horizontal exit shall be provided by a fire wall complying with Section 705; or it shall be provided by a fire barrier complying with Section 706 or a horizontal assembly complying with Section 711, or both, and having a ~~The minimum~~ fire-resistance rating of ~~not less than~~ the separation shall be 2 hours. Opening protectives in horizontal exit 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 exit 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~~ separated from the building 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.

Exception: Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies complying with Section 715.

[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 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] 415.6.3.5.2 Fire separation. The rooms shall be separated from the building by 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 1 hour and the fire barriers shall not have openings. Such fire barriers and horizontal assemblies shall be designed to withstand a static pressure of at least 100 pounds per square foot (4788 Pa), except where the building, within which the room is located, is occupied by operations or processes having a similar hazard.

Exception: Fire barriers between common walls occupied only for the storage of LP-gas are permitted to have opening protectives complying with Section 715.

[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.

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

Public Hearing Results

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; ~~of.~~

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.

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

Code Change No: FS43-06/07

Original Proposal

Sections 706.7, 712.3.1.1 (IMC 607.5.4), 2603.8

Proponent: Philip Brazil, P.E., Reid Middleton, Inc., representing himself

Revise as follows:

706.7 Openings. Openings in a fire barrier wall 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 (15m²). 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 fire areas are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Fire doors 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 and has a minimum fire-resistance rating not less than the fire-resistance rating of the wall.
4. Fire windows assemblies permitted in atrium separation walls shall not be limited to a maximum aggregate width of 25 percent of length of the wall.

716.5.4 (IMC 607.5.4) Fire partitions. Ducts and air transfer openings that penetrate fire partitions shall be protected with listed fire dampers installed in accordance with their listing.

Exceptions: In occupancies other than Group H, fire dampers are not required where any of the following apply:

1. The partitions are tenant separation or corridor walls in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the duct is protected as a through penetration in accordance with Section 712.
2. Tenant partitions in covered mall buildings where the walls are not required by provisions elsewhere in the code to extend to the underside of the floor or roof sheathing, slab or deck above.
3. The duct system is constructed of approved materials in accordance with the *International Mechanical Code* and the duct penetrating the wall complies with all of the following requirements:
 - 3.1. The duct shall not exceed 100 square inches (0.06 m²).
 - 3.2. The duct shall be constructed of steel a minimum of 0.0217 inch (0.55 mm) in thickness.
 - 3.3. The duct shall not have openings that communicate the corridor with adjacent spaces or rooms.
 - 3.4. The duct shall be installed above a ceiling.
 - 3.5. The duct shall not terminate at a wall register in the fire-resistance-rated wall.
 - 3.6. A minimum 12-inch-long (305 mm) by 0.060-inch-thick (1.52 mm) steel sleeve shall be centered in each duct opening. The sleeve shall be secured to both sides of the wall and all four sides of the sleeve with minimum 1 1/2-inch by 1 1/2-inch by 0.060-inch (38 mm by 38 mm by 1.52 mm) steel retaining angles. The retaining angles shall be secured to the sleeve and the wall with No. 10 (M5) screws. The annular space between the steel sleeve and the wall opening shall be filled with mineral wool batting on all sides.

2603.8 Protection against termites. In areas where the probability of termite infestation is very heavy in accordance with Figure 2603.8, extruded and expanded polystyrene, polyisocyanurate and other foam plastics shall not be installed on the exterior face or under interior or exterior foundation walls or slab foundations located below grade. The clearance between foam plastics installed above grade and exposed earth shall be at least 6 inches (152 mm).

Exceptions:

1. Buildings where the structural members of walls, floors, ceilings and roofs are entirely of noncombustible materials or ~~preservatively~~ preservative-treated wood.
2. An approved method of protecting the foam plastic and structure from subterranean termite damage is provided.
3. On the interior side of basement walls.

Reason:

1. 706.7: Consistency with Section 715.4.
2. 716.5.4: Consistency with code change proposal FS19-03/04 (AM).
3. 2603.8: Consistency with current definition in Section 2302.1.

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 more specific language which will make the sections consistent with other sections of the code. In addition, Section 716.5.4 will help clarify exactly where the wall is required to extend to.

Assembly Action:

None

Final Hearing Results

FS43-06/07

AS

Code Change No: **FS46-06/07**

Original Proposal

Sections 707.2, 712.1.1 712.3.3, 716.1.1 (IMC 607.1.1) and 716.1.1.1 (New), (IMC 607.1.1.1) (New)

Proponent: Vickie Lovell, Delray, FL, representing Air Movement and Control Association

Revise as follows:

707.2 Shaft enclosure required. Openings through a floor/ceiling assembly shall be protected by a shaft enclosure complying with this Section.

Exceptions:

1. A shaft enclosure is not required for openings totally within an individual residential dwelling unit and connecting four stories or less.
2. A shaft enclosure is not required in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 for an escalator opening or stairway that is not a portion of the means of egress protected according to Item 2.1 or 2.2:
 - 2.1. Where the area of the floor opening between stories does not exceed twice the horizontal projected area of the escalator or stairway and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Groups B and M, this application is limited to openings that do not connect more than four stories.
 - 2.2. Where the opening is protected by approved power-operated automatic shutters at every penetrated floor. The shutters shall be of noncombustible construction and have a fire-resistance rating of not less than 1.5 hours. The shutter shall be so constructed as to close immediately upon the actuation of a smoke detector installed in accordance with Section 907.11 and shall completely shut off the well opening. Escalators shall cease operation when the shutter begins to close. The shutter shall operate at a speed of not more than 30 feet per minute (152.4 mm/s) and shall be equipped with a sensitive leading edge to arrest its progress where in contact with any obstacle, and to continue its progress on release there from.
3. A shaft enclosure is not required for penetrations by pipe, tube, conduit, wire, cable and vents protected in accordance with Section 712.4.
4. A shaft enclosure is not required for penetrations by air ducts protected in accordance with Section ~~712.4~~ 716.5. Grease ducts and other hazardous exhaust ducts shall be protected in accordance with the *International Mechanical Code*.
5. In other than Group H occupancies, a shaft enclosure is not required for floor openings complying with the provisions for atriums in Section 404.
6. A shaft enclosure is not required for approved masonry chimneys where annular space protection is provided at each floor level in accordance with Section 717.2.5.
7. In other than Groups I-2 and I-3, a shaft enclosure is not required for a floor opening or an air transfer opening that complies with the following:
 - 7.1. Does not connect more than two stories.
 - 7.2. Is not part of the required means of egress system, except as permitted in Section 1020.1.
 - 7.3. Is not concealed within the building construction.
 - 7.4. Is not open to a corridor in Group I and R occupancies.
 - 7.5. Is not open to a corridor on nonsprinklered floors in any occupancy.
 - 7.6. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.
 - 7.7. Is limited to the same smoke compartment.
8. A shaft enclosure is not required for automobile ramps in open and enclosed parking garages constructed in accordance with Sections 406.3 and 406.4, respectively.
9. A shaft enclosure is not required for floor openings between a mezzanine and the floor below.
10. A shaft enclosure is not required for joints protected by a fire-resistant joint system in accordance with Section 713.
11. A shaft enclosure shall not be required for floor openings created by unenclosed stairs or ramps in accordance with Exception 8 or 9 in Section 1020.1.
12. Floor openings protected by floor fire doors in accordance with Section 711.8.
13. Where permitted by other sections of this code.

712.3.3 712.1.1 Ducts and air transfer openings. Penetrations of fire-resistance-rated walls by ducts that are not protected with dampers shall comply with Sections 712.2 through 712.3.4 4. Penetrations of horizontal assemblies not protected with a shaft as permitted by Exception #4 of Section 707, and are not required to be protected with fire dampers by other sections of the code, shall comply with Sections 712.4 through 712.4.4. Ducts and air transfer openings that are protected with dampers shall comply with Section 716.

716.1.1 (IMC 607.1.1) Ducts that penetrate fire resistance rated assemblies without dampers. Ducts that penetrate fire-resistance-rated assemblies and are not required by this section to have dampers shall comply with the requirements of Sections 712.2 through 712.3.4. Ducts that penetrate horizontal assemblies not required to be contained within a shaft and are not required by this section to have dampers shall comply with the requirements of Sections 712.4 through 712.4.4

716.1.1.1 (IMC 607.1.1.1) Ducts that penetrate non-fire resistance rated assemblies The space around a duct penetrating a non-fire resistance rated wall assembly shall be filled with an approved material to limit the free passage of smoke. The space around a duct penetrating a non-fire resistance rated floor assembly shall comply with 716.6.3.

Reason: The incorrect correlation between sections 707, 712 and 716 has lead to misinterpretation of the requirements for fire dampers by code users.

Fire dampers and through penetration firestops are not equivalent alternatives for one another. However, either could be considered an alternative to a shaft enclosure, under specific, appropriate conditions. The 2006 Edition of the IBC outlines the minimum requirements as to when fire dampers are required, and specific conditions as to when dampers can be omitted due to other provisions in the code. But the code also states that when ducts are not enclosed in a shaft, and are permitted to penetrate a fire resistance rated assembly without fire dampers, the assembly still must be protected with through penetration protection. Unfortunately, due to the way the code is currently formatted, that is not clearly laid out.

The current hierarchy of code sections in the 2006 IBC that applies to ducts is as follows:

1. Section 707 - Shafts are acceptable, traditional protection for duct penetrations through floor assemblies.
2. Exception 4 of Section 707 permits alternate protection of ducts and directs the user to 712.4 for the protection of penetrations
3. Section 712.4 .1.3 directs the user to Section 716 specifically for protection of ducts and air transfer openings.

The correct and more user friendly hierarchy of code sections that applies to ducts in floor assemblies should be as follows:

Section 707 - Shafts are acceptable, traditional protection for duct penetrations through floor assemblies.

Exception 4 of Section 707 permits alternate protection of ducts other than shafts and should send the user directly to Section 716, "Ducts and Air Transfer Openings", where the protection requirements specifically for ducts are located, or to the Mechanical Code for protection for exhaust ducts.

Where Section 716 (or some other section of the code) does not require a fire damper in the duct, then the section should send the user to 712.4 for protection requirements of the duct.

We believe that these code change proposals help the code user to more quickly find the correct method of protection for ducts.

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:

707.2 Shaft enclosure required. Openings through a floor/ceiling assembly shall be protected by a shaft enclosure complying with this Section.

Exceptions:

1. A shaft enclosure is not required for openings totally within an individual residential dwelling unit and connecting four stories or less.
2. A shaft enclosure is not required in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 for an escalator opening or stairway that is not a portion of the means of egress protected according to Item 2.1 or 2.2:
 - 2.1. Where the area of the floor opening between stories does not exceed twice the horizontal projected area of the escalator or stairway and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Groups B and M, this application is limited to openings that do not connect more than four stories.
 - 2.2. Where the opening is protected by approved power-operated automatic shutters at every penetrated floor. The shutters shall be of noncombustible construction and have a fire-resistance rating of not less than 1.5 hours. The shutter shall be so constructed as to close immediately upon the actuation of a smoke detector installed in accordance with Section 907.11 and shall completely shut off the well opening. Escalators shall cease operation when the shutter begins to close. The shutter shall operate at a speed of not more than 30 feet per minute (152.4 mm/s) and shall be equipped with a sensitive leading edge to arrest its progress where in contact with any obstacle, and to continue its progress on release there from.
3. A shaft enclosure is not required for penetrations by pipe, tube, conduit, wire, cable and vents protected in accordance with Section 712.4.
4. A shaft enclosure is not required for penetrations by ducts protected in accordance with Section 712.4. Grease ducts shall be protected in accordance with the *International Mechanical Code*.
5. In other than Group H occupancies, a shaft enclosure is not required for floor openings complying with the provisions for atriums in Section 404.
6. A shaft enclosure is not required for approved masonry chimneys where annular space protection is provided at each floor level in accordance with Section 717.2.5.
7. In other than Groups I-2 and I-3, a shaft enclosure is not required for a floor opening or an air transfer opening that complies with the following:

- 7.1. Does not connect more than two stories.
- 7.2. Is not part of the required means of egress system, except as permitted in Section 1020.1.
- 7.3. Is not concealed within the building construction.
- 7.4. Is not open to a corridor in Group I and R occupancies.
- 7.5. Is not open to a corridor on nonsprinklered floors in any occupancy.
- 7.6. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.
- 7.7. Is limited to the same smoke compartment.
- 8. A shaft enclosure is not required for automobile ramps in open and enclosed parking garages constructed in accordance with Sections 406.3 and 406.4, respectively.
- 9. A shaft enclosure is not required for floor openings between a mezzanine and the floor below.
- 10. A shaft enclosure is not required for joints protected by a fire-resistant joint system in accordance with Section 713.
- 11. A shaft enclosure shall not be required for floor openings created by unenclosed stairs or ramps in accordance with Exception 8 or 9 in Section 1020.1.
- 12. Floor openings protected by floor fire doors in accordance with Section 711.8.
- 13. Where permitted by other sections of this code.

(Existing 712.3.3) 712.1.1 Ducts and air transfer openings. Penetrations of fire-resistance-rated walls by ducts that are not protected with dampers shall comply with Sections 712.2 through 712.3.4. Penetrations of horizontal assemblies not protected with a shaft as permitted by Exception #4 of Section 707, and are not required to be protected with fire dampers by other sections of the code, shall comply with Sections 712.4 through 712.4.4. Ducts and air transfer openings that are protected with dampers shall comply with Section 716.

716.1.1 (IMC 607.1.1) Ducts that penetrate fire resistance rated assemblies without dampers. Ducts that penetrate fire-resistance-rated assemblies and are not required by this section to have dampers shall comply with the requirements of Sections 712.2 through 712.3.4. Ducts that penetrate horizontal assemblies not required to be contained within a shaft and are not required by this section to have dampers shall comply with the requirements of Sections 712.4 through 712.4.4

716.1.1.1 (IMC 607.1.1.1) Ducts that penetrate non-fire resistance rated assemblies. ~~The space around a duct penetrating a non-fire resistance rated wall assembly shall be filled with an approved material to limit the free passage of smoke.~~ The space around a duct penetrating a non-fire resistance rated floor assembly shall comply with 716.6.3.

Committee Reason: This proposal helps to provide references and direction to the applicable code section. These revisions should help clarify the application of the various sections. The modifications eliminate the changes in Section 707.2 item 4 which was acted on in FS45-06/07. The revision in 716.1.1.1 eliminates the requirement being applied to walls and leaves it so it simply references existing requirements for floors in 716.6.3. The revisions in Sections 712.1.1 and 716.1.1 are strictly editorial.

Assembly Action:

None

Final Hearing Results

FS46-06/07

AM

Code Change No: FS130-06/07

Original Proposal

Sections: 716.3.2.1 (IMC 607.3.2.1)

Proponent: Vickie Lovell, Delray, FL, representing Air Movement and Control Association

Revise as follows:

716.3.2.1 (IMC 607.3.2.1) Smoke damper actuation methods. The smoke damper shall close upon actuation of a listed smoke detector or detectors installed in accordance with Section 907.10 and one of the following methods, as applicable:

- 1. Where a damper is installed within a duct, a smoke detector shall be installed in the duct within 5 feet (1524 mm) of the damper with no air outlets or inlets between the detector and the damper. The detector shall be listed for the air velocity, temperature and humidity anticipated at the point where it is installed. Other than in mechanical smoke control systems, dampers shall be closed upon fan shutdown where local smoke detectors require a minimum velocity to operate.

2. Where a damper is installed above smoke barrier doors in a smoke barrier, a spot-type detector listed for releasing service shall be installed on either side of the smoke barrier door opening.
3. Where a damper is installed within an ~~unducted~~ air transfer opening in a wall, a spot-type detector listed for releasing service shall be installed within 5 feet (1524 mm) horizontally of the damper.
4. Where a damper is installed in a corridor wall or ceiling, the damper shall be permitted to be controlled by a smoke detection system installed in the corridor.
5. Where a total-coverage smoke detector system is provided within areas served by a heating, ventilation and air-conditioning (HVAC) system, dampers shall be permitted to be controlled by the smoke detection system.

Reason: This is the only section in the 2006 IBC where the term “unducted opening” is used. It is presumed that this applies to a hole in the wall, and the more appropriate term is air transfer opening.

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 better to use the term “air transfer” opening since it is the typically used term in the code instead of the term “unducted” opening.

Analysis: A similar revision will also be made in Section 607.5.4.1 of the International Mechanical Code because it is using the same wording. This section was discussed during the committee discussion and because the section is under the control of this committee and is identical, it will be modified accordingly.

Assembly Action:

None

Final Hearing Results

FS130-06/07

AS

Code Change No: **FS135-06/07**

Original Proposal

Sections: 716.5.3 (IMC 607.5.5)

Proponent: Michael Perrino, Code Consultants, Inc

Revise as follows:

716.5.3 (IMC 607.5.5) Shaft enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire dampers are not required at penetrations of shafts where:
 - 1.1. Steel exhaust subducts are extended at least 22 inches (559 mm) vertically in exhaust shafts, provided there is a continuous airflow upward to the outside; or
 - 1.2. Penetrations are tested in accordance with ASTM E119 as part of the rated assembly; or
 - 1.3. Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 and where the fire damper will interfere with the operation of the smoke control system; or
 - 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.

2. In Group B and R occupancies, equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, smoke dampers are not required at penetrations of shafts where:
 - 2.1. ~~Kitchen, clothes dryer, b~~ Bathroom and toilet room exhaust openings are installed with steel exhaust subducts, having a wall thickness of at least 0.019 inch (0.48 mm); and
 - 2.2. That extend at least 22 inches (559 mm) vertically; and
 - 2.3. An exhaust fan is installed at the upper terminus of the shaft that is, powered continuously in accordance with the provisions of Section 909.11, so as to maintain a continuous upward airflow to the outside.
3. Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system.
5. Fire dampers and combination fire/smoke dampers are not required in kitchen and clothes dryer exhaust system when installed in accordance with the *International Mechanical Code*.

Reason: (In regards to the IBC): To coordinate with IMC Sections 504.2 (last sentence) and with my proposed revision to the last sentence of IMC Section 506.3.10.

The IMC addresses protection for specific equipment and such protection should not be regulated by occupancy classification.

Sections 506.3.10 as proposed for change and 504.2 of the International Mechanical Code adequately address the materials, protection and installation of grease ducts and clothes dryer exhaust ducts based on the hazards associated with such systems. There is no reason to require additional occupancy specific protection to systems which function the same in any occupancy. The new exception adds the necessary information so that the reader is directed to the proper code requirements.

(In regards to the IMC): To coordinate with Section 506.3.10 last sentence (per the proposed code change) and Section 504.2 last sentence.

The last sentence of current section 506.3.10, Grease duct enclosure, provides duct enclosure requirements which states "The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring, or systems."

The proposed code change to Section 607.5.5, Exception 2 is meant to coordinate with our companion change to Section 506.3.10, which will state "The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring, fire dampers, combination fire/smoke dampers and any similar devices that will obstruct the exhaust flow."

Also the last sentence of current Section 504.2, Exhaust penetrations, states "Fire dampers, combination fire/smoke dampers and any similar devices that will obstruct the exhaust flow, shall be prohibited in clothes dryer exhaust ducts."

The provisions in Sections 506.3.10 and 504.2 are provided for the specific equipment and should not be regulated by occupancy classification.

Sections 506.3.10 as proposed for change and 504.2 of the International Mechanical Code adequately address the materials, protection and installation of grease ducts and clothes dryer exhaust ducts based on the hazards associated with such systems. There is no reason to require additional occupancy specific protection to systems which function the same in any occupancy.

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

Public Hearing Results

Committee Action:

Approved as Modified

Replace the original proposal with the following:

716.5.3 (IMC 607.5.5) Shaft enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire dampers are not required at penetrations of shafts where:
 - 1.1. Steel exhaust subducts are extended at least 22 inches (559 mm) vertically in exhaust shafts, provided there is a continuous airflow upward to the outside; or
 - 1.2. Penetrations are tested in accordance with ASTM E119 as part of the rated assembly; or
 - 1.3. Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 and where the fire damper will interfere with the operation of the smoke control system; or
 - 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
2. In Group B and R occupancies, equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, smoke dampers are not required at penetrations of shafts where:
 - 2.1. Kitchen, clothes dryer, bathroom and toilet room exhaust openings are installed with steel exhaust subducts, having a wall thickness of at least 0.019 inch (0.48 mm); and
 - 2.2. That extend at least 22 inches (559 mm) vertically; and
 - 2.3. An exhaust fan is installed at the upper terminus of the shaft that is, powered continuously in accordance with the provisions of Section 909.11, so as to maintain a continuous upward airflow to the outside.
3. Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system.
5. Fire dampers and combination fire/smoke dampers are not required in kitchen and clothes dryer exhaust system when installed in accordance with the *International Mechanical Code*.

Committee Reason: The committee modified the proposal to be consistent with the action taken previously on FS134-06/07. Therefore the proposal is modified so that no changes will be made to item 2.1 and only the new item 5 will move forward. The addition of exception 5 will be applicable to all occupancies and is not limited to the B and R occupancies as exception 2 is. This exception will basically serve as a cross-reference to the IMC and could be used to address items such as an industrial clothes dryer in a hospital. The IMC will prohibit the installation of dampers within these types of exhaust ducts.

Assembly Action:

None

Final Hearing Results

FS135-06/07

AM

Code Change No: FS139-06/07

Original Proposal

Section 716.5.6 (New) [IMC 607.5.6 (New)]

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

Add new text as follows:

716.5.6 (IMC 607.5.6) Exterior walls. Ducts and air transfer openings in fire-resistance rated exterior walls in accordance with Section 704.14 shall be protected with listed fire dampers installed in accordance with their listing.

Reason: Although Section 704.14 contains very explicit requirements for protection of duct and air transfer openings in fire-resistance rated exterior walls required to have protected openings, the cross referenced Section 716 contains no duct and air transfer opening protection requirements specifically applicable to exterior walls. Section 716.5 provides general charging language while the following subsections state specific requirements for the various fire-resistance rated assemblies. This proposal provides necessary charging language in Section 716 that responds to the requirement in Section 704.14. A basic fire damper requirement consistent with the protection of exterior wall openings has been provided. It is recommended that this fundamental charging language be approved in this code development cycle. This will allow interested parties the opportunity to modify the technical requirement as they feel necessary. Approval of this proposal will provide necessary charging language that currently does not exist in the *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: This helps to create a section to place these requirements in so that they are addressed and can be regulated. There is currently no section that picks up the protection requirements for ducts and air transfer openings through an exterior wall even though it is implied. Code users starting in Section 704.14 are referenced to Section 716.5 to determine where dampers are required. By placing this into the general "where required" section it provides clarity and gets to the damper listing provisions. In addition, it also provides consistency with fire walls, fire barriers and fire partitions. The intent is not to override Table 704.8 and permit openings in the 0 to 3 foot range even if they are protected with a damper.

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 G. Perry, representing BOMA International, requests Approval as Modified by this public comment.

Modify proposal as follows:

716.5.6 (IMC 607.5.6) Exterior Walls. Ducts and air transfer openings in fire-resistance rated exterior walls required to have protected openings in accordance with Section 704.14 shall be protected with listed fire dampers in accordance with their listing.

Commenter's Reason: Without the addition of 'required to have protected openings' it is not clear whether this 'pointer' is requiring dampers on all ducts and air-transfer openings in rated exterior walls, or only those specifically required to have protected openings. Although it might be argued that this is covered by the reference to 704.14, it isn't clear, and it doesn't make much sense to make someone go digging through the book to find 5 extra words.

An additional question, not addressed by this comment, is whether the existing text at 704.14 and this new text could be read to imply that a fire damper is required on the exhaust duct for an emergency generator, which would be problematic.

Final Hearing Results

FS139-06/07

AMPC1

Code Change No: FS140-06/07

Original Proposal

Sections: 716.5.6 (New), 716.5; IMC 607.5.6 (New), IMC 607.5

Proponent: Gregory R. Keith, Professional heuristic Development, representing The Boeing Company

1. Add new text as follows:

716.5.6 (IMC 607.5.6) Smoke partitions. A listed smoke damper designed to resist the passage of smoke shall be provided at each point that an air transfer opening penetrates a smoke partition. Smoke dampers and smoke damper actuation methods shall comply with Section 716.3.2.1.

Exception: Smoke dampers are not required where the openings in ducts are limited to a single smoke compartment and the ducts are constructed of steel.

2. Revise as follows:

716.5 (IMC 607.5) Where required. Fire dampers, smoke dampers, combination fire/smoke dampers and ceiling radiation dampers shall be provided at the locations prescribed in Sections 716.5.1 through 716.5.5 716.5.6. Where an assembly is required to have both fire dampers and smoke dampers, combination fire/smoke dampers or a fire damper and smoke damper shall be required.

Reason: Presently, Section 716.5 has no smoke damper charging language provisions specific to smoke partitions although Section 710.7 requires smoke dampers at air transfer openings. The language proposed for Section 716.5.6 is consistent with the technical requirements of Section 710.7. It is also consistent with the detailed installation requirements for smoke dampers in smoke barriers in accordance with Section 716.5.5. It is only reasonable that an exception to more stringent smoke barrier requirements should also apply to smoke partitions. Approval of this proposal will assist in the proper determination of smoke damper requirements in smoke partitions.

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

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: While the intent is to provide a section for the reference from Section 710.7 to send the users to, this proposal and some of the potential modifications that were discussed during the testimony created confusion. The concern with this proposal is that while the base paragraph addresses air transfer openings, the exception deals with ducts. If the word duct is added into the base paragraph, it would then conflict with Section 710.7 which does not require a damper in a ducted system.

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:

716.5.6 Smoke partitions. A listed smoke damper designed to resist the passage of smoke shall be provided at each point that an air transfer opening penetrates a smoke partition. Smoke dampers and smoke damper actuation methods shall comply with Section 716.3.2.1.

~~Exception: Smoke dampers are not required where the openings in ducts are limited to a single smoke compartment and the ducts are constructed of steel. Where the installation of a smoke damper will interfere with the operation of a required smoke control system in accordance with Section 909, approved alternate protection shall be utilized.~~

716.5 Where required. Fire dampers, smoke dampers, combination fire/smoke dampers and ceiling radiation dampers shall be provided at the locations prescribed in Sections 716.5.1 through 716.5.6. Where an assembly is required to have both fire dampers and smoke dampers, combination fire/smoke dampers shall be required.

Commenter's Reason: Presently, Section 716.5 has no smoke damper charging language provisions specific to smoke partitions although Section 710.7 requires smoke dampers at air transfer openings. The language proposed for Section 716.5.6 is consistent with the detailed installation requirements for smoke dampers in smoke barriers in accordance with Section 716.5.5. It was pointed out during discussion of the item in Orlando, and as noted in the published reason for disapproval, that a proposed exception addressing smoke dampers in ducts was inappropriate in that Section 710.7 only requires smoke dampers at air transfer openings. That exception has been deleted from the proposal. Approval of this proposal will assist in the proper determination of smoke damper requirements in smoke partitions.

Final Hearing Results

FS140-06/07

AMPC1

Code Change No: **FS143-06/07**

Original Proposal

Section 716.6.2.1 (IMC 607.6.2.1), Chapter 35

Proponent: Bob Eugene, Underwriters Laboratories Inc.

1. Revise as follows:

716.6.2.1 (IMC 607.6.2.1) Ceiling radiation dampers. Ceiling radiation dampers shall be tested either in accordance with UL 555C or as part of a fire-resistance rated floor-ceiling or roof/ceiling assembly in accordance with ASTM E 119 or UL 263. ~~and~~ Ceiling radiation damper shall be installed in accordance with the details listed in the fire-resistance-rated assembly and the manufacturer's installation instructions and the listing. Ceiling radiation dampers are not required where either of the following applies:

1. Tests in accordance with ASTM E119 or UL 263 have shown that ceiling radiation dampers are not necessary in order to maintain the fire-resistance rating of the assembly.
2. Where exhaust duct penetrations are protected in accordance with Section 712.4.1.2, are located within the cavity of a wall and do not pass through another dwelling unit or tenant space.

2. Add standard to Chapter 35 as follows:

UL

263-03 Standard for Fire Test of Building Construction and Materials

Reason: The purpose of this proposed code change is to provide an additional option for the evaluation of ceiling radiation dampers.

Section 703 of the IBC requires the fire performance of horizontal fire-resistance-rated assemblies to be evaluated in accordance with ASTM E 119 or UL 263 (ASTM E 119 and UL 263 describe the same test method). However, current code language does not specifically permit the evaluation of a ceiling radiation damper as part of the horizontal fire-resistance-rated assembly. This proposal is intended to provide that option.

Section 716.6.2.1 of the IBC currently specifies ceiling radiation dampers are to be evaluated in accordance with UL 555C. UL 555C describes a comparative fire test procedure whereby the fire performance of a candidate ceiling radiation damper is compared to the performance of the hinged door type damper specified in many fire-resistance-rated assemblies published in the UL Fire Resistance Directory. UL 555C requires the ceiling radiation damper to perform equal or better than the hinged door type damper. The resulting listing of the ceiling radiation damper specifies the limitations under which the ceiling radiation damper may be used in a fire-resistance-rated assembly in lieu of the hinged door type damper.

Sub-Section 1 under Section 716.6.2.1 already states ceiling radiation dampers are not required at all when tests conducted to ASTM E 119 have shown that ceiling radiation dampers are not necessary to maintain the fire-resistance rating of the assembly. This proposal is simply a variation of this same logic. If an assembly incorporating a ceiling radiation damper provides the required fire-resistance rating, then that ceiling radiation damper should be permitted in the specific fire-resistance-rated assembly.

When a ceiling radiation damper is evaluated as part of a fire-resistance-rated floor-ceiling or roof-ceiling assembly, the description of the tested fire-resistance-rated assembly will include a description of the ceiling radiation damper and its installation.

ASTM E119 is the prescribed test for fire resistive assemblies. When duct outlets are included in the tested assembly, the duct outlet protective system in accordance with the tested assembly will be just as effective as one that uses a Listed ceiling radiation damper. UL 263 is an ANSI approved standard. Results of the review of the proposed standard(s) will be posted on the ICC website by August 20, 2006.

Bibliography: IBC Section 703

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 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

Committee Action:

Approved as Submitted

Committee Reason: The discussion of FS142 and FS143 were taken together. The committee action on this item is taken based on the broader support for code change FS143-06/07. Because FS143 includes the UL standard as a reference, it provides an additional design option. Adding additional standards as design options coordinates with actions taken earlier at this hearing by the committee.

Assembly Action:

None

Final Hearing Results

FS143-06/07

AS

IBC GENERAL

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 ~~407.1~~ 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~~ ~~412~~
BOARD OF APPEALS**

**SECTION ~~111~~ ~~413~~
VIOLATIONS**

**SECTION ~~112~~ ~~414~~
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 ICC *Electrical Code*.

**SECTION ~~205~~ ~~415~~
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 ~~407.1~~ 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 108 410
CERTIFICATE OF OCCUPANCY**

**SECTION 109 412
BOARD OF APPEALS**

**SECTION 110 413
VIOLATIONS**

**SECTION 111 414
STOP WORK ORDER**

**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 methods.

201.5 401.6. Safeguards during construction.

201.6 401.7 Appendices.

201.7 401.8 Correction of violations of other codes.

**SECTION 202 402
APPLICABILITY**

**SECTION 203 406
CONSTRUCTION DOCUMENTS**

**SECTION 204 407
TEMPORARY STRUCTURES AND USES**

204.1 407.2 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.

204.2 407.3 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 ICC *Electrical Code*.

**SECTION 205 414
SERVICE UTILITIES**

**SECTION 206 415
UNSAFE BUILDINGS AND EQUIPMENT**

**SECTION 207 416
EMERGENCY MEASURES**

**SECTION 208 417
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~~ 101
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~101.2~~ Scope.

201.2 ~~101.3~~ Intent.

201.3 ~~101.4~~ Applicability.

201.4 ~~101.5~~ Compliance.

SECTION ~~202~~ 102
MATERIALS, SYSTEMS AND EQUIPMENT

SECTION ~~203~~ 103
ALTERNATE MATERIALS – METHOD OF CONSTRUCTION, DESIGN OR INSULATING SYSTEMS

SECTION ~~204~~ 104
CONSTRUCTION DOCUMENTS

SECTION ~~205~~ 106
VALIDITY

SECTION ~~206~~ 107
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~~ 103
DEPARTMENT OF FIRE PREVENTION

SECTION ~~103~~ 104
GENERAL AUTHORITY AND RESPONSIBILITIES

SECTION ~~104~~ 105
PERMITS

SECTION ~~105~~ 106
INSPECTIONS

SECTION ~~106~~ 108
BOARD OF APPEALS

SECTION ~~107~~ ~~409~~
VIOLATIONS

SECTION ~~108~~ ~~414~~
STOP WORK ORDER

CHAPTER 2
SCOPE AND APPLICATION

SECTION ~~201~~ ~~404~~
SCOPE AND GENERAL REQUIREMENTS

- ~~201.1~~ ~~404.2~~ Scope.
- ~~201.2~~ ~~404.2.4~~ Appendices.
- ~~201.3~~ ~~404.3~~ Intent.
- ~~201.4~~ ~~404.4~~ Severability.
- ~~201.5~~ ~~404.5~~ Validity.

SECTION ~~202~~ ~~402~~
APPLICABILITY

SECTION ~~203~~ ~~407~~
MAINTENANCE

SECTION ~~204~~ ~~410~~
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~~ ~~403~~
DEPARTMENT OF INSPECTION

SECTION ~~103~~ ~~404~~
DUTIES AND POWERS OF CODE OFFICIAL

SECTION ~~104~~ ~~406~~
PERMITS

SECTION ~~105~~ ~~407~~
INSPECTION AND TESTING

SECTION ~~106~~ ~~408~~
VIOLATIONS

SECTION ~~107~~ ~~409~~
MEANS OF APPEAL

CHAPTER 2
SCOPE AND APPLICATION

SECTION ~~201~~ ~~404~~
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~401.2~~ Scope.
201.2 ~~401.3~~ Appendices.
201.3 ~~401.4~~ Intent.
201.4 ~~401.5~~ 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 ~~404~~
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~401.2~~ Scope.
201.2 ~~401.2.4~~ 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 ~~103~~ 102
DEPARTMENT OF PLUMBING INSPECTION

SECTION ~~104~~ 103
DUTIES AND POWERS OF THE CODE OFFICIAL

SECTION ~~106~~ 104
PERMITS

SECTION ~~107~~ 105
INSPECTIONS AND TESTING

SECTION ~~108~~ 106
VIOLATIONS

SECTION ~~109~~ 107
MEANS OF APPEAL

CHAPTER 2
DEFINITIONS SCOPE AND APPLICATION

SECTION 201
SCOPE AND GENERAL REQUIREMENTS

~~101.2~~ **201.1** Scope.
~~101.3~~ **201.2** Intent.
~~101.4~~ **201.3** Severability.

SECTION ~~102~~ 202
APPLICABILITY

SECTION ~~105~~ 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 ~~103~~
DEPARTMENT OF PROPERTY MAINTENANCE INSPECTION

SECTION 103 ~~104~~
DUTIES AND POWERS OF CODE OFFICIAL

SECTION 104 ~~106~~
VIOLATIONS

SECTION 105 ~~107~~
NOTICES AND ORDERS

SECTION 107 ~~114~~
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 ~~440~~
DEMOLITION

(Renumber subsequent chapters)

PART IX – IPSDC

CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL SCOPE AND GENERAL REQUIREMENTS

101.1 Tile.
(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 ~~404.2~~ Scope.
201.2 ~~404.6~~ Intent. (Moved up from current 101.6)
201.3 ~~404.3~~ Public sewer connection.
201.4 ~~404.4~~ Abandoned systems.
201.5 ~~404.5~~ Failing system.
201.6 ~~404.7~~ Severability.

**SECTION ~~202~~ 402
APPLICABILITY**

**SECTION ~~203~~ 405
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~~ R403
DEPARTMENT OF BUILDING SAFETY**

**SECTION ~~R103~~ R404
DUTIES AND POWERS OF THE
BUILDING OFFICIAL**

**SECTION ~~R104~~ R405
PERMITS**

**SECTION ~~R105~~ R407
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~~ R408
FEES**

**SECTION ~~R107~~ R409
INSPECTIONS**

**SECTION ~~R108~~ R410
CERTIFICATE OF OCCUPANCY**

**SECTION ~~R109~~ R412
BOARD OF APPEALS**

**SECTION ~~R110~~ R413
VIOLATIONS**

**SECTION ~~R111~~ R414
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~~ ~~R102~~
APPLICABILITY

SECTION ~~R203~~ ~~R106~~
CONSTRUCTION DOCUMENTS

SECTION ~~R204~~ ~~R107~~
TEMPORARY STRUCTURES AND USES

R204.1 ~~R107.2~~ 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 ~~R107.3~~ 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 ICC *Electrical Code*.

SECTION ~~R205~~ ~~R114~~
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~~ ~~104~~
APPEALS

SECTION ~~104~~ ~~105~~
PERMITS

SECTION ~~105~~ ~~107~~
INSPECTIONS AND ENFORCEMENT

SECTION ~~106~~ ~~108~~
CERTIFICATION

CHAPTER 2
SCOPE AND APPLICATION

SECTION ~~201~~ ~~104~~
SCOPE AND GENERAL REQUIREMENTS

201.1 ~~104.2~~ Scope.
201.2 ~~104.3~~ Objective.
201.3 ~~104.4~~ Retroactivity.
201.4 ~~104.5~~ Additions and alterations.
201.5 ~~104.6~~ Maintenance.

SECTION ~~202~~ ~~103~~
COMPLIANCE ALTERNATIVES

SECTION ~~203~~ ~~106~~
PLANS AND SPECIFICATIONS

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~~ 104**
DUTIES AND POWERS OF CODE OFFICIAL**SECTION ~~104~~ 105**
PLANNING COMMISSION**SECTION ~~105~~ 106**
COMPLIANCE WITH THE CODE**SECTION ~~106~~ 107**
BOARD OF ADJUSTMENT**SECTION ~~107~~ 108**
HEARING EXAMINER**SECTION ~~108~~ 109**
HEARINGS, APPEALS AND AMENDMENTS**SECTION ~~109~~ 110**
VIOLATIONS**SECTION ~~110~~ 111**
PERMITS AND APPROVALS**CHAPTER 2**
SCOPE AND APPLICATION**SECTION ~~201~~ 101**
SCOPE AND GENERAL REQUIREMENTS**201.1 ~~101.3~~ Scope.****201.2 ~~101.4~~ Intent.****SECTION ~~202~~ 102**
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
GENERALSECTION 102
APPLICABILITY

Part 2 – Administration and Enforcement

SECTION 103
DEPARTMENT OF INSPECTIONSECTION 104
DUTIES AND POWERS OF CODE OFFICIALSECTION 105
APPROVALSECTION 106
PERMITSSECTION 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:
PART XII —IZC
Committee Action:

None
Approved as Modified

Replace the proposal with the following:

CHAPTER 1
SCOPE AND ADMINISTRATION
Part 1 – Scope and Application

SECTION 101
GENERAL

SECTION ~~103~~ 102
EXISTING BUILDINGS AND USES

Part 2 – Administration and Enforcement

SECTION ~~104~~ 103
DUTIES AND POWERS OF THE ZONING CODE OFFICIAL

SECTION ~~105~~ 104
PLANNING COMMISSION

SECTION ~~106~~-105
COMPLIANCE WITH THE CODE

SECTION ~~107~~-106
BOARD OF ADJUSTMENT

SECTION ~~108~~-107
HEARING EXAMINER

SECTION ~~109~~-108
HEARINGS, APPEALS AND AMENDMENTS

SECTION ~~110~~-109
VIOLATIONS

SECTION ~~111~~-110
PERMITS AND APPROVALS

SECTION ~~112~~-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

Final Hearing Results

G221-06/07, Part I	D
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

2006/2007 INTERNATIONAL FIRE CODE DOCUMENTATION

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."

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

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.

Public 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

2006/2007 INTERNATIONAL FUEL GAS CODE DOCUMENTATION

Code Change No: **FG20-06/07**

Original Proposal

Sections: 305.4; IMC 304.5

Proponent: Tony Longino, County of Greenville, South Carolina, representing himself

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

PART I – IFGC

Revise as follows:

305.4 Public garages. Appliances located in public garages, motor fuel-dispensing facilities, repair garages or other areas frequented by motor vehicles shall be installed a minimum of 8 feet (2438 mm) above the floor. Where motor vehicles exceed 6 feet (1829 mm) in height and are capable of passing under an appliance, the appliances shall be installed a minimum of at the clearances required by the appliance manufacturer and not less than 2 feet (610 mm) 1 foot higher above the floor than the height of the tallest vehicle than the tallest vehicle garage door opening.

Exception: The requirements of this section shall not apply where the appliances are protected from motor vehicle impact and installed in accordance with Section 305.3 and NFPA 30A.

PART II – IMC

Revise as follows:

304.5 Public garages. Appliances located in public garages, motor fuel-dispensing facilities, repair garages or other areas frequented by motor vehicles shall be installed a minimum of 8 feet (2438 mm) above the floor. Where motor vehicles exceed 6 feet (1829 mm) in height and are capable of passing under an appliance, the appliances shall be installed a minimum of at the clearances required by the appliance manufacturer and not less than 2 feet (610 mm) 1 foot higher above the floor than the height of the tallest vehicle than the tallest vehicle garage door opening.

Exception: The requirements of this section shall not apply where the appliances are protected from motor vehicle impact and installed in accordance with Section 304.3 and NFPA 30A.

Reason: The purpose of this code change is to be able to perform Mechanical/Fuel gas inspections based on door height as opposed to a vehicle that does not exist. A business could intend to use 9' tall vehicles before the building is built, only to find 10' tall vehicles are available and will be more suitable for their need. This will render the appliance installation out of code as soon as the taller vehicle is brought into the building. Many public or repair garage owners will not be aware of the heater requirements being based on the height of their vehicles and it would be doubtful a garage will turn away business as long as the vehicle will fit into their building. The height of the heater will be based on the height of the door and the manufacturers required clearance to the items below. A hanging heater with a 6" clearance to the underside could be installed at the minimum of 1' above the garage door opening height, and a radiant heater that requires a 3' clearance to objects below would be required to be installed at 3' above the tallest vehicle garage door opening height. In this case it would be known at the time of the inspection that no vehicle can be brought into the building that would violate the original height requirement. The Fuel gas code is not a maintenance code and the language in the current code suggests we can keep track and restrict the height of all future vehicles that enter the building for as long as the building stands.

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

Public Hearing Results

PART I — IFGC
Committee Action:

Approved as Submitted

Committee Reason: The height of the tallest vehicle could be unknown or could change as operations change. The building owner will not be aware of the vehicle height limitation with respect to the appliance installations. Basing the installation height on the garage door height will make sure that all vehicles that enter the building will have the proper clearance.

Assembly Action: **None**

PART II — IMC

Committee Action: **Approved as Submitted**

Committee Reason: Using the height of the door opening will provide a constant height for the appliances whereas, using the height of the tallest vehicle could cause the height to vary depending upon the vehicles used.

Assembly Action: **None**

Final Hearing Results

FG20-06/07, Part I	AS
FG20-06/07, Part II	AS

Code Change No: **M2-07/08**

Original Proposal

Section: 202

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise definition as follows:

COMBINATION FIRE/SMOKE DAMPER (Supp). A listed device installed in ducts and air transfer openings designed to close automatically upon the detection of heat and resist the passage of flame and smoke. The device is installed to operate automatically, ~~and~~ be controlled by a smoke detection system, and where required, is capable of being positioned from a fire command center.

Reason: To provide a consistent definition throughout all the I-codes. The phrase that is added is consistent with the IBC and IMC and is appropriate for the IMC as well considering that the bulk of the smoke control system is installed to the requirements of 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 additional phrase makes the definition consistent with the IBC definition.

Assembly Action:

None

Final Hearing Results

M2-07/08

AS

Code Change No: **M3-07/08**

Original Proposal

Sections: 202 (IFC [M] 602.1)

Proponent: Richard Swierczynya, Architectural Energy Corporation, representing the Commercial Kitchen Ventilation Technical Interest Group

Revise definition as follows:

HOOD (IFC [M] HOOD). An air intake device used to capture by entrapment, impingement, adhesion or similar means, grease, moisture, hot air and similar contaminants before they enter a duct system.

Type I. A kitchen hood for collecting and removing grease vapors and smoke. Such hoods are equipped with a fire suppression system.

Type II. A general kitchen hood for collecting and removing steam, ~~vapor~~, heat, ~~and odors~~ and products of combustion.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

Reason: Clarify definitions of Type I and Type II hoods. The revised definitions are similar to the definitions in ASHRAE Standard 154 Ventilation of Commercial Cooking Processes

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:

HOOD. An air intake device used to capture by entrapment, impingement, adhesion or similar means, grease, moisture, ~~hot air~~ heat and similar contaminants before they enter a duct system.

Type I. A kitchen hood for collecting and removing grease vapors and smoke. Such hoods are equipped with a fire suppression system.

Type II. A general kitchen hood for collecting and removing steam, vapor, heat, and odors and products of combustion.

Committee Reason: This proposal makes the definition consistent with the definition in ASHRAE 154 and further clarifies that Type II hoods must also remove products of combustion. The modification replaces “hot air” with the more correct term “heat” and also puts the terms “vapor” and “odor” back into the definition of Type II hoods because there was no justification offered for removing them from the original language.

Assembly Action:

None

Final Hearing Results

M3-07/08

AM

Code Change No: M4-07/08

Original Proposal

Section: 202 (New)

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Add new definition as follows:

INTERLOCK. A device actuated by another device with which it is directly associated, to govern succeeding operations of the same or allied devices. A circuit in which a given action cannot occur until after one or more other actions have taken place.

Reason: The term “**INTERLOCK**” has been tossed around rather loosely in the code. This definition is needed so the user can understand what an interlock really means as there is no such definition in the NEC. This definition is from the *Modern Dictionary of Electronics*, 7th edition.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This is an undefined term in the code that needs to be defined. The user will have a better understanding of what the interlocking of two devices involves.

Assembly Action:

None

Final Hearing Results

M4-07/08

AS

Code Change No: **M5-07/08**

Original Proposal

Section 202

Proponent: Richard Swierczyna, Architectural Energy Corporation, representing the Commercial Kitchen Ventilation Technical Interest Group

Revise definition as follows:

SECTION 202 GENERAL DEFINITIONS

LIGHT-DUTY COOKING APPLIANCE (Supp). Light-duty cooking appliances include gas and electric ovens (including standard, bake, roasting, revolving, retherm, convection, combination convection/steamer, countertop conveyORIZED baking/finishing, conveyor, deck or deck-style pizza, and pastry), electric and gas steam-jacketed kettles, electric and gas pasta cookers, electric and gas compartment steamers (both pressure and atmospheric) and electric and gas cheese melters.

Reason: Clarify the differentiation between a lower input deck oven and a high input and effluent production of a conveyor pizza oven. Added countertop conveyORIZED baking/finishing oven due to the recent increased use in sandwich and c-stores.

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 "conveyor oven" appears in both this definition and that of Medium Duty Cooking Appliances and is more appropriate for Medium Duty. That term is deleted and the new term "countertop conveyORIZED baking/finishing ovens" is added to include cooking appliances that are prevalent in sandwich shops.

Assembly Action:

None

Final Hearing Results

M5-07/08

AS

Code Change No: **M8-07/08**

Original Proposal

Sections 304.3, 304.4 (New)

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

1. Revise as follows:

304.3 Elevation of ignition source. Equipment and appliances having an ignition source and located in hazardous locations and public garages, private garages, repair garages, automotive motor-fuel-dispensing facilities and parking garages shall be elevated such that the source of ignition is not less than 18 inches (457 mm) above the floor surface

on which the equipment or appliance rests. ~~Such equipment and appliances shall not be installed in Group H occupancies or control areas where open use, handling or dispensing of combustible, flammable or explosive materials occurs.~~ For the purpose of this section, rooms or spaces that are not part of the living space of a dwelling unit and that communicate directly with a private garage through openings shall be considered to be part of the private garage.

2. Add new text as follows:

304.4 Prohibited equipment and appliance location. Equipment and appliances having an ignition source shall not be installed in Group H occupancies or control areas where open use, handling or dispensing of combustible, flammable or explosive materials occur.

(Renumber subsequent sections)

Reason: This language is deserving of its own section as it's very specific in nature. Removing it permits everything in 304.3 to be legally installed in those occupancies. Isolating this group makes sense because certain appliances "cannot" be installed in this group H.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The language that was relocated to a new section is unrelated to the elevation of appliances which is the subject of the rest of the section. It should be in its own section.

Assembly Action:

None

Final Hearing Results

M8-07/08

AS

Code Change No: M9-07/08

Original Proposal

Sections: 304.9; IRC M1305.1.4.1, M1308.3; IFGC 305.7

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC, THE IRC MECHANICAL AND THE IFGC CODE DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Revise as follows:

304.9 Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 3 inches (76 mm) above adjoining grade or shall be suspended ~~a minimum of~~ not less than 6 inches (152 mm) above adjoining grade. Such support shall be in accordance with the manufacturer's installation instructions.

Reason: This change will make the IMC consistent with the IRC and a proposed change to the IFGC.

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

PART II – IRC**1. Revise as follows:**

M1305.1.4.1 Ground clearance. ~~Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 3 inches (76 mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions.~~ Appliances suspended from the floor shall have a clearance of not less than 6 inches (152 mm) from the ground.

2. Delete without substitution:

~~**M1308.3 Foundations and supports.** Foundations and supports for outdoor mechanical systems shall be raised at least 3 inches (76 mm) above the finished grade, and shall also conform to the manufacturer's installation instructions.~~

Reason: The two IRC Mechanical sections are addressing the same subject matter. It's more efficient to combine the two and have just one section covering the topic. The modification to IMC 304.9 and IFGC 305.7 are consistent language with that of M1305.1.4.1.

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

PART III – IFGC**Revise as follows:**

305.7 Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 3-inches (76 mm) above adjoining grade or shall be suspended ~~a minimum of~~ not less than 6 inches (152 mm) above adjoining grade.

Reason: This change will make the IFGC consistent with the IRC and a proposed change to the IMC.

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

Public Hearing Results

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

Committee Reason: A minimum height above grade is needed in the code and this change adds a 3 inch height which is consistent with the IRC requirement.

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

Committee Reason: This code change combines two sections to put all of the ground clearance requirements in one place.

Assembly Action:**None****PART III – IFGC****Committee Action:****Disapproved**

Committee Reason: The parallel code text in the IMC and IRC contains a requirement for compliance with the manufacturer's instructions which is not proposed for the IFGC text. There are pads being successfully used in the field that are less than 3 inches in height above grade.

Assembly Action:**None**

Final Hearing Results

M9-07/08	AS
M9-07/08	AS
M9-07/08	D

Code Change No: M11-07/08

Original Proposal

Sections: 306.2, 306.3, 306.4, 306.5; IRC M1305.1.3, M1305.1.4 (IFGC [M] 306.2, [M] 306.3, [M] 306.4, [M] 306.5)

Proponent: Antwone J. Ross, Chesterfield County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Revise as follows:

306.2 Appliances in rooms. Rooms containing appliances ~~requiring access~~ shall be provided with a door and an unobstructed passageway measuring not less than 36 inches (914 mm) wide and 80 inches (2032 mm) high.

Exception: Within a dwelling unit, appliances installed in a compartment, alcove, basement or similar space shall be accessed by an opening or door and an unobstructed passageway measuring not less than 24 inches (610 mm) wide and large enough to allow removal of the largest appliance in the space, provided that a level service space of not less than 30 inches (762 mm) deep and the height of the appliance, but not less than 30 inches (762 mm), is present at the front or service side of the appliance with the door open.

306.3 Appliances in attics. Attics containing appliances ~~requiring access~~ shall be provided with an opening and unobstructed passageway large enough to allow removal of the largest appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length measured along the center line of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), where such dimensions are large enough to allow removal of the largest appliance.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches wide for its entire length, the passageway shall be not greater than 50 feet (15 250 mm) in length.

306.4 Appliances under floors. Underfloor spaces containing appliances ~~requiring access~~ shall be provided with an access opening and unobstructed passageway large enough to remove the largest appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) in length measured along the centerline of the passageway from the opening to the appliance. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry. Such concrete or masonry shall extend a minimum of 4 inches (102 mm) above the adjoining grade and shall have sufficient lateral-bearing capacity to resist collapse. The clear access opening dimensions shall be a minimum of 22 inches by 30 inches (559 mm by 762 mm), where such dimensions are large enough to allow removal of the largest appliance.

Exceptions:

1. The passageway is not required where the level service space is present when the access is open and the appliance is capable of being serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet high (1929 mm) and 22 inches wide for its entire length, the passageway shall not be limited in length.

306.5 (Supp) Equipment and appliances on roofs or elevated structures. Where equipment and appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances' level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope). Where access involves climbing over parapet walls, the height shall be measured to the top of the parapet wall.

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1 kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2 kg/m²) per square foot. Landing dimensions shall be not less than 18 inches and not less than the width of the ladder served. A guard rail shall be provided on all open sides of the landing.
7. Ladders shall be protected against corrosion by approved means.

Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Exception: This section shall not apply to Group R-3 occupancies.

PART II – IRC-M

Revise as follows:

M1305.1.3 Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long when measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), where such dimensions are large enough to allow removal of the largest appliance.

Exceptions:

1. The passageway and level service space are not required where the appliance can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not more than 50 feet (15 250 mm) long.

M1305.1.4 Appliances under floors. Underfloor spaces containing appliances requiring access shall have an unobstructed passageway large enough to remove the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) long when measured along the centerline of the passageway from the opening to the appliance. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry extending 4 inches (102 mm) above the adjoining grade in accordance with Chapter 4. The rough-framed access opening dimensions shall be a minimum of 22 inches by 30 inches (559 mm by 762 mm), where the dimensions are large enough to remove the largest appliance.

Exceptions:

1. The passageway is not required where the level service space is present when the access is open, and the appliance can be serviced and removed through the required opening.

2. Where the passageway is unobstructed and not less than 6 feet high (1929 mm) and 22 inches wide for its entire length, the passageway shall not be limited in length.

Reason: All appliances require access. The current code language is misleading and sometimes generates unnecessary discussions about which appliances need access and which don't. Section 306.1 already requires access.

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

Public Hearing Results

PART I – IMC

Committee Action:

Approved as Modified

Modify proposal as follows:

306.5 (Supp) Equipment and appliances on roofs or elevated structures. Where equipment requiring access and appliances are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances' level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than four units vertical in 12 units horizontal (33-percent slope). Where access involves climbing over parapet walls, the height shall be measured to the top of the parapet wall.

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1 kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2 kg/m²) per square foot. Landing dimensions shall be not less than 18 inches and not less than the width of the ladder served. A guard rail shall be provided on all open sides of the landing.
7. Ladders shall be protected against corrosion by approved means.

Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Exception: This section shall not apply to Group R-3 occupancies.

(Portions of proposal not shown remain unchanged)

Committee Reason: This proposal clarifies that all equipment and appliances need access. The modification adds "requiring access" after "equipment" because not all elevated equipment requires access.

Assembly Action:

None

PART II – IRC

Committee Action:

Approved as Submitted

Committee Reason: This proposal is identical to M10, Part II and the action by the committee is consistent with its action on M10.

Assembly Action:

None

Final Hearing Results

M11-07/08, Part I	AM
M11-07/08, Part II	AS

Code Change No: M15-07/08

Original Proposal

Section 307.2.3 (IPC [M] 314.2.3)

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association/the Virginia Building and Code Officials Association

Revise as follows:

307.2.3 (IPC [M] 314.2.3) Auxiliary and secondary drain systems. In addition to the requirements of Section 307.2.1, ~~a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil or fuel-fired appliance that produces condensate, where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping. One of the following methods shall be used:~~ where damage to any building components will occur as a result of overflow from the equipment condensate removal system, one of the following protection methods shall be provided for each cooling coil or fuel-fired appliance that produces condensate:

1. An auxiliary drain pan with a separate drain shall be provided under the coils on which condensation will occur. The auxiliary pan drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The pan shall have a minimum depth of 1.5 inches (38 mm), shall not be less than 3 inches (76 mm) larger than the unit or the coil dimensions in width and length and shall be constructed of corrosion-resistant material. Metallic pans shall have a minimum thickness of not less than 0.0276-inch (0.7 mm) galvanized sheet metal. Nonmetallic pans shall have a minimum thickness of not less than 0.0625 inch (1.6 mm).
2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.
3. An auxiliary drain pan without a separate drain line shall be provided under the coils on which condensate will occur. Such pan shall be equipped with a water-level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section.
4. A water level detection device conforming to UL 508 shall be provided that will shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line, or in the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

Exception: Fuel-fired appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.

Reason: As originally written the existing text was adequate but not anymore. This proposed text deletes conflict within this section. It appears to require a pan or drain, but the recent additions to this section recognize new technology that does not have a drain or require a pan. Over the past several code cycles this section has had additions to allow more methods of secondary condensate removal. The proposed text incorporates the newly added methods as well as maintains openness to allow for any additional methods that may be developed in the future.

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:

307.2.3 Auxiliary and secondary drain systems. In addition to the requirements of Section 307.2.1, where damage to any building components ~~will~~ could occur as a result of overflow from the equipment primary condensate removal system, one of the following auxiliary protection methods shall be provided for each cooling coil or fuel-fired appliance that produces condensate:

1. An auxiliary drain pan with a separate drain shall be provided under the coils on which condensation will occur. The auxiliary pan drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The pan shall have a minimum depth of 1.5 inches (38 mm), shall not be less than 3 inches (76 mm) larger than the unit or the coil dimensions in width and length and shall be constructed of corrosion-resistant material. Metallic pans shall have a minimum thickness of not less than 0.0276-inch (0.7 mm) galvanized sheet metal. Nonmetallic pans shall have a minimum thickness of not less than 0.0625 inch (1.6 mm).
2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.
3. An auxiliary drain pan without a separate drain line shall be provided under the coils on which condensate will occur. Such pan shall be equipped with a water-level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section.
4. A water level detection device conforming to UL 508 shall be provided that will shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line, or in the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

Exception: Fuel-fired appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.

Committee Reason: The original language in the charging section requires a pan to be included in the protection method, but Item 4 allows a method without a pan. This change deletes the pan requirement and corrects the language to include all four methods. The modification clarifies that the auxiliary protection methods are required where the primary system fails.

Assembly Action:

None

Final Hearing Results

M15-07/08

AM

Code Change No: M16-07/08

Original Proposal

Table 308.6, Sections 307.2.3, 506.3.1.1, 507.4, 507.5, [F] 513.13.1 (IFC 909.13.1; IBC [F] 902.13.1), Table 603.4, 803.8, Table 803.9(1), Table 803.9(2), 803.10.4; IRC Table M1306.2, M1308.2, M1411.3.1, M1502.5, M1505.1, Table M1601.1.1(2), Table M1803.2; IFGC 404.5, 502.4, 502.7; IBC 716.5.3, 716.5.4, 716.6.1

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC, THE IRC MECHANICAL, THE IFGC AND THE IBC FIRE SAFETY CODE DEVELOPMENT COMMITTEES AS 4 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Revise as follows:

305.5 Protection against physical damage. In concealed locations where piping, other than cast-iron or steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1.5 inches (38 mm) from the nearest edge of the member, the pipe shall be protected by shield plates. Protective ~~steel~~ shield plates ~~shall be a minimum of 0.062-inch thick (1.6 mm) steel~~ having a minimum thickness of 0.0575-inches (1.463 mm) (No. 16 Gage), shall cover the area of the pipe where the member is notched or bored, and shall extend a minimum of 2 inches (51 mm) above sole plates and below top plates.

307.2.3 Auxiliary and secondary drain systems. In addition to the requirements of Section 307.2.1, a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil or fuel-fired appliance that produces condensate, where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping. One of the following methods shall be used:

1. An auxiliary drain pan with a separate drain shall be provided under the coils on which condensation will occur. The auxiliary pan drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The pan shall have a minimum depth of 1.5 inches (38 mm), shall not be less than 3 inches (76 mm) larger than the unit or the coil dimensions in width and length and shall be constructed of corrosion-resistant material. ~~Metallic Galvanized sheet steel~~ pans shall have a minimum thickness of not less than ~~0.0276~~ 0.0236 -inch (0.7 mm) (0.6010 mm) (No. 24 gauge) galvanized sheet metal. Nonmetallic pans shall have a minimum thickness of not less than 0.0625 inch (1.6 mm).
2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.
3. An auxiliary drain pan without a separate drain line shall be provided under the coils on which condensate will occur. Such pan shall be equipped with a water-level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section.
4. A water level detection device conforming to UL 508 shall be provided that will shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line, or in the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

Exception: Fuel-fired appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.

**TABLE 308.6
CLEARANCE REDUCTION METHODS**

TYPE OF PROTECTIVE ASSEMBLY	REDUCED CLEARANCE WITH PROTECTION (inches)							
	Horizontal combustible assemblies located above the heat source				Horizontal combustible assemblies located beneath the heat source and all vertical combustible assemblies			
	Required clearance to combustibles without protection (inches)				Required clearance to combustibles without protection (inches)			
	36	18	9	6	36	18	9	6
Galvanized sheet metal steel, having a minimum nominal thickness of 0.024 <u>0.0236 inches (0.6010 mm)</u> (No. 24 Gage), mounted on 1-inch glass fiber or mineral wool batt reinforced with wire on the back, 1 inch off the combustible assembly	18	9	5	3	12	6	6	3
Galvanized sheet metal steel, having a minimum nominal thickness of 0.024 <u>0.0236 inch (0.6010 mm)</u> (No. 24 Gage), spaced 1 inch off the combustible assembly	18	9	5	3	12	6	6	2
Two layers of galvanized sheet metal steel, having a minimum nominal thickness of 0.024 <u>0.036 inch (0.6010 mm)</u> (No. 24 Gage), having a 1-inch airspace between layers, spaced 1 inch off the combustible assembly	18	9	5	3	12	6	6	3
Two layers of galvanized sheet metal steel, having a minimum nominal thickness of 0.024 <u>0.0236 inch (0.6010 mm)</u> (No. 24 Gage), having 1 inch of fiberglass insulation between layers, spaced 1 inch off the combustible assembly	18	9	5	3	12	6	6	3
0.5-inch inorganic insulating board, over 1 inch of fiberglass or mineral wool batt, against the combustible assembly	24	12	6	4	18	9	9	3
3.5-inch brick wall, spaced 1 inch off the combustible wall	—	—	—	—	12	6	6	6
3.5-inch brick wall, against the combustible wall	—	—	—	—	24	12	12	5

(Footnotes not shown remain unchanged)

506.3.1.1 (Supp) Grease duct materials. Grease ducts serving Type I hoods shall be constructed of steel ~~not less than 0.055 inch (1.4 mm) (No. 16 Gage) in thickness~~ having a minimum thickness of 0.575-inch (1.463 mm) (No. 16 gage) or stainless steel not less than ~~0.044~~ 0.0450-inch (1.14 mm) (No. 18 Gage) in thickness.

Exception: Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978 and installed in accordance with Section 304.1.

507.4 Type I materials. Type I hoods shall be constructed of steel ~~not less than 0.043-inch (1.09 mm) (No. 18 MSG) in thickness,~~ having a minimum thickness of 0.0466-inches (1.181 mm) (No. 18 Gage) or stainless steel not less than ~~0.037~~ 0.0335-inch (0.94 mm) (.8525 mm) (No. 20 MSG) in thickness.

507.5 Type II hood materials. Type II hoods shall be constructed of steel ~~not less than 0.030 inch (0.76 mm) (No. 22 Gage) in thickness,~~ having a minimum thickness of 0.0296-inches (.7534 mm) (No. 22 Gage) or stainless steel not less than ~~0.024~~ 0.0220-inch (0.61 mm) (.5550 mm) (No. 24 Gage) in thickness, copper sheets weighing not less than 24 ounces per square foot (7.3 kg/m²), or of other approved material and gage.

[F] 513.13.1 (IFC 902.13.1; IBC [F]902.13.1) Materials. Control-air tubing shall be hard-drawn copper, Type L, ACR in accordance with ASTM B 42, ASTM B 43, ASTM B 68, ASTM B 88, ASTM B 251 and ASTM B 280. Fittings shall be wrought copper or brass, solder type in accordance with ASME B 16.18 or ASME B 16.22. Changes in direction shall be made with appropriate tool bends. Brass compression-type fittings shall be used at final connection to devices; other joints shall be brazed using a BCuP5 brazing alloy with solidus above 1,100°F (593°C) and liquids below 1,500°F (816°C). Brazing flux shall be used on copper-to-brass joints only.

Exception: Nonmetallic tubing used within control panels and at the final connection to devices provided all of the following conditions are met:

1. Tubing shall be listed by an approved agency for flame and smoke characteristics.
2. Tubing and connected device shall be completely enclosed within a galvanized or paint-grade steel enclosure ~~of not less than 0.030 inch (0.76 mm) (No. 22 galvanized sheet gage) thickness~~ having a minimum thickness of 0.0296-inches (.7534 mm) (No. 22 Gage) Entry to the enclosure shall be by copper tubing with a protective grommet of neoprene or teflon or by suitable brass compression to male barbed adapter.
3. Tubing shall be identified by appropriately documented coding.
4. Tubing shall be neatly tied and supported within the enclosure. Tubing bridging cabinets and door moveable devices shall be of sufficient length to avoid tension and excessive stress. Tubing shall be protected against abrasion. Tubing serving devices on doors shall be fastened along hinges.

**TABLE 603.4
DUCT CONSTRUCTION MINIMUM SHEET METAL
THICKNESSES FOR SINGLE DWELLING UNITS**

DUCT SIZE	GALVANIZED		APPROXIMATE ALUMINUM B & S GAGE MINIMUM THICKNESS
	MINIMUM THICKNESS INCHES AND (mm)	EQUIVALENT GALVANIZED GAGE NO.	
Round ducts and enclosed rectangular ducts			
14" or less	0.013 0.0157 (.3950 mm)	30 28	26 0.0175
Over 14" 16 and 18 inch	0.016 0.0187 (.4712 mm)	28 26	24 0.018
20 inch and over	0.0236 (.6010 mm)	24	0.023
Exposed rectangular ducts			
14" or less	0.016 0.0157 (0.3950 mm)	28	24 0.0175
Over 14" ^a	0.019 0.0187 (.4712 mm)	26	22 0.018

a. For duct gages and reinforcement requirements at static pressures of ½", 1" and 2" w.g., SMACNA Duct Construction Standard, Tables 2-1; 2-2 and 2-3 shall apply.

803.8 Vent connector construction. Vent connectors shall be constructed of metal. The minimum nominal thickness of the connector shall be ~~0.019 inch (0.5 mm)~~ 0.0136-inches (.3462 mm) (No. 28 Gage) for galvanized steel, 0.022 inch (0.6 mm) (No. 26 B & S Gage) for copper, and 0.020 inch (0.5 mm) (No. 24 B & S Gage) for aluminum.

**TABLE 803.9(1)
MINIMUM CHIMNEY CONNECTOR THICKNESS FOR
LOW-HEAT APPLIANCES^a**

DIAMETER OF CONNECTOR (inches)	MINIMUM NOMINAL THICKNESS (galvanized) (inches) (mm)
5 and smaller	0.022 (No. 26 Gage)
Larger than 5 and up to 10	0.028 (No. 24 Gage)
Larger than 10 and up to 16	0.034 (No. 22 Gage)
14 inches and less	0.0157 (.3950 mm) (.No. 28 Gage)
Larger than 16 16 and 18 inch ^a	0.064 (No. 16 Gage) 0.0187 (.4712 mm) (No. 26 Gage)

For SI: 1 inch = 25.4 mm.

a. For sizes larger than 18 inches SMACNA Duct Construction Standard, Table 3-5 shall apply.

TABLE 803.9(2)
MINIMUM CHIMNEY CONNECTOR THICKNESS FOR
MEDIUM- AND HIGH-HEAT APPLIANCES

AREA (square inches)	EQUIVALENT ROUND DIAMETER (inches)	MINIMUM NOMINAL THICKNESS Inches (mm)
0-154	0-14	0.060 <u>0.0575 (1.463 mm)</u> (No. 16 Gage)
155-201	15-16	0.075 <u>0.0705 (1.784 mm)</u> (No. 14 Gage)
202-254	17-18	0.105 <u>0.0994 (2.523 mm)</u> (No. 12 Gage)
Greater than 254	Greater than 18	0.135 <u>0.1292 (3.280 mm)</u> (No. 10 Gage)

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm².

TABLE 803.10.4
CHIMNEY CONNECTOR SYSTEMS AND CLEARANCES
TO COMBUSTIBLE WALL MATERIALS FOR DOMESTIC HEATING APPLIANCES ^{a,b,c,d}

System A (12-inch clearance)	A 3.5-inch-thick brick wall shall be framed into the combustible wall. A 0.625-inch-thick fire-clay liner (ASTM C 315 or equivalent) shall be firmly cemented in the center of the brick wall maintaining a 12-inch clearance to combustibles. The clay liner shall run from the outer surface of the bricks to the inner surface of the chimney liner.
System B (9-inch clearance)	A labeled solid-insulated factory-built chimney section (1-inch insulation) the same inside diameter as the connector shall be utilized. Sheet metal <u>steel</u> supports cut to maintain a 9-inch clearance to combustibles shall be fastened to the wall surface and to the chimney section. Fasteners shall not penetrate the chimney flue liner. The chimney length shall be flush with the masonry chimney liner and sealed to the masonry with water-insoluble refractory cement. Chimney manufacturers' parts shall be utilized to securely fasten the chimney connector to the chimney section.
System C (6-inch clearance)	A sheet metal steel (minimum number 24 Gage) ventilated thimble <u>having a minimum thickness of 0.0236-inches (.6010 mm) (No.24 Gage)</u> having two 1-inch air channels shall be installed with a sheet steel chimney connector. (minimum number 24 Gage). <u>Sheet Steel supports (minimum number 24 Gage)</u> shall be cut to maintain a 6-inch clearance between the thimble and combustibles. <u>The chimney connector and steel supports shall have a minimum thickness of 0.0236-inches (.6010 mm) (No 24 Gage)</u> . One side of the support shall be fastened to the wall on all sides. Glass-fiber insulation shall fill the 6-inch space between the thimble and the supports.
System D (2- inch clearance)	A labeled solid-insulated factory-built chimney section (1-inch insulation) with a diameter 2 inches larger than the chimney connector shall be installed with a sheet steel chimney connector (minimum number 24 Gage) <u>having a minimum thickness of 0.0236-inches (.6010 mm) (No.24 Gage)</u> . Sheet metal <u>steel</u> supports shall be positioned to maintain a 2-inch clearance to combustibles and to hold the chimney connector to ensure that a 1-inch airspace surrounds the chimney connector through the chimney section. The steel support shall be fastened to the wall on all sides and the chimney section shall be fastened to the supports. Fasteners shall not penetrate the liner of the chimney section.

(Footnotes not shown remain unchanged)

PART II – IRC-M

1. Revise as follows:

TABLE M1306.2

REDUCTION OF CLEARANCES WITH SPECIFIED FORMS OF PROTECTION

a, b, c, d, e, f, g, h, i, j, k

TYPE OF PROTECTION APPLIED TO AND COVERING ALL SURFACES OF COMBUSTIBLE MATERIAL WITHIN THE DISTANCE SPECIFIED AS THE REQUIRED CLEARANCE WITH NO PROTECTION [See Figures M1306.1 and M1306.2]	WHERE THE REQUIRED CLEARANCE WITH NO PROTECTION FROM APPLIANCE, VENT CONNECTOR, OR SINGLE WALL METAL PIPE IS:									
	36 inches	18 inches	12 inches	9 inches	6 inches					
	Allowable clearances with specified protection (Inches) ^b									
	Use column 1 for clearances above an appliance or horizontal connector. Use column 2 for clearances from an appliance, vertical connector and single-wall metal pipe.									
	Above column 1	Sides and rear Column 2	Above column 1	Sides and rear Column 2	Above column 1	Sides and rear Column 2	Above column 1	Sides and rear Column 2	Above column 1	Sides and rear Column 2
3½-inch thick masonry wall without ventilated air space	-----	24	-----	12	-----	9	-----	6	-----	5
½-in. insulation board over 1-inch glass fiber or mineral wool batts	24	18	12	9	9	6	6	5	4	3
<u>24 gage sheet metal Galvanized sheet steel having a minimum thickness of 0.0236-inches (.6010 mm) (No.24 Gage) over 1-inch glass fiber or mineral wool batts reinforced with wire on rear face with a ventilated air space</u>	18	12	9	6	6	4	5	3	3	3
3½-inch thick masonry wall with ventilated air space	-----	12	-----	6	-----	6	-----	6	-----	6
<u>24 gage sheet metal Galvanized sheet steel having a minimum thickness of 0.0236-inches (.6010 mm) (No. 24 Gage) with a ventilated air space 1-inch off the combustible assembly</u>	18	12	9	6	6	4	5	3	3	2
½-inch thick insulation board with ventilated air space	18	12	9	6	6	4	5	3	3	3
<u>24 gage sheet metal Galvanized sheet steel having a minimum thickness of 0.0236-inches (.6010 mm) (No 24 Gage) with ventilated air space over 24 gage sheet metal steel with a ventilated air space</u>	18	12	9	6	6	4	5	3	3	3
1-inch glass fiber or mineral wool batts sandwiched between two sheets- <u>24 gage sheet metal of galvanized sheet steel having a minimum thickness of 0.0236-inches (.6010 mm) (No.24 Gage) with a ventilated air space.</u>	18	12	9	6	6	4	5	3	3	3

(Footnotes not shown remain unchanged)

M1308.2 Protection against physical damage. In concealed locations where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1.5 inches (38 mm) from the nearest edge of the member, the pipe shall be protected by shield plates. Protective steel shield plates shall be a minimum of 0.062-inch-thick (1.6 mm) steel having a minimum thickness of 0.0575-inches (1.463 mm) (No. 16 Gage), shall cover the area of the pipe where the member is notched or bored, and shall extend a minimum of 2 inches (51 mm) above sole plates and below top plates.

M1411.3.1 (Supp) Auxiliary and secondary drain systems. In addition to the requirements of Section M1411.3, a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Drain piping shall be a minimum of 3/4-inch (19 mm) nominal pipe size. One of the following methods shall be used:

1. An auxiliary drain pan with a separate drain shall be installed under the coils on which condensation will occur. The auxiliary pan drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The pan shall have a minimum depth of 1.5 inches (38 mm), shall not be less than 3 inches (76 mm) larger than the unit or the coil dimensions in width and length and shall be constructed of corrosion-resistant material. Metallic Galvanized sheet steel pans shall have a minimum thickness of not less than 0.0276-inch 0.0236-inches (0.7 mm) (.6010 mm) (No. 24 Gage) galvanized sheet metal. Nonmetallic pans shall have a minimum thickness of not less than 0.0625 inch (1.6 mm).
2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. This overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.
3. An auxiliary drain pan without a separate drain line shall be installed under the coils on which condensate will occur. This pan shall be equipped with a water level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The pan shall be equipped with a fitting to allow for drainage. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section.
4. A water level detection device conforming to UL 508 shall be provided that will shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line or the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

M1502.5 Duct construction. Exhaust ducts shall be constructed of rigid metal, having a minimum thickness of 0.046-inch-thick (0.4 mm) rigid metal ducts, 0.0157-inches (.3950 mm) (No. 28 Gage) having and shall have smooth interior surfaces with joints running in the direction of air flow. Exhaust ducts shall not be connected with sheet-metal screws or fastening means which extend into the duct.

M1505.1 General. Domestic open-top broiler units shall be provided with a metal exhaust hood, not less than 28-gage, having a minimum thickness of 0.0157-inches (.3950 mm) (No. 28 Gage) with 1/4 inch (6 mm) clearance between the hood and the underside of combustible material or cabinets. A clearance of at least 24 inches (610 mm) shall be maintained between the cooking surface and the combustible material or cabinet. The hood shall be at least as wide as the broiler unit and shall extend over the entire unit. Such exhaust hood shall discharge to the outdoors and shall be equipped with a backdraft damper or other means to control infiltration/exfiltration when not in operation. Broiler units incorporating an integral exhaust system, and listed and labeled for use without an exhaust hood, need not be provided with an exhaust hood.

2. Delete and substitute as follows:

**TABLE M1601.1.1(2)
GAGES OF METAL DUCTS AND PLENUMS USED FOR HEATING OR COOLING**

TYPE OF DUCT	SIZE (inches)	MINIMUM THICKNESS (inch)	EQUIVALENT GALVANIZED SHEET GAGE	APPROXIMATE ALUMINUM B & S GAGE
Round ducts and enclosed rectangular ducts	14 or less	0.013	30	26
	over 14	0.016	28	24
Exposed rectangular ducts	14 or less	0.016	28	24
	over 14	0.019	26	22

TABLE M1601.1.1(2)
GAGES OF METAL DUCTS AND PLENUMS USED FOR HEATING OR COOLING

<u>DUCT SIZE</u>	<u>Galvanized</u>		<u>Aluminum</u>
	<u>Minimum thickness inches and (mm)</u>	<u>Equivalent galvanized gage no.</u>	<u>Minimum thickness</u>
<u>Round ducts and enclosed rectangular ducts</u>			
14" or less	0.0157 (.3950 mm)	28 26	0.0175
16 and 18 inch	0.0187 (.4712 mm)	24	0.018
20 inch and over	0.0236 (.6010 mm)		0.023
<u>Exposed rectangular ducts</u>			
14" or less	0.0157 (.3950 mm)	28 26	0.0175
Over 14" ^a	0.0187 (.4712 mm)		0.018

For SI: 1 inch = 25.4 mm.

a. For duct gages and reinforcement requirements at static pressures of ½", 1" and 2" w.g., SMACNA Duct Construction Standard, Tables 2-1; 2-2 and 2-3 shall apply.

3. Revise table as follows:

TABLE M1803.2
THICKNESS FOR SINGLE-WALL METAL PIPE CONNECTORS^a

<u>DIAMETER OF CONNECTOR (inches)</u>	<u>GALVANIZED SHEET METAL GAGE NUMBER</u>	<u>MINIMUM THICKNESS (inch) (mm)</u>
Less than 6	26	0.019
6 to 10	24	0.024
14 inches and less	28	0.0157 (.3950 mm)
Over 10 through 16	22	0.029
16 and 18 inch ^a	26	0.0187 (.4712 mm)

For SI: 1 inch = 25.4 mm.

a. For sizes larger than 18 inches SMACNA Duct Construction Standard, Table 3-5 shall apply.

PART III – IFGC

Revise as follows:

404.5 Protection against physical damage. In concealed locations, where piping other than black or galvanized steel is installed through holes or notches in wood studs, joists, rafters or similar members less than 1.5 inches (38 mm) from the nearest edge of the member, the pipe shall be protected by shield plates. Protective steel shield plates shall be a minimum of 1/16-inch-thick (1.6 mm) steel, having a minimum thickness of 0.0575-inches (1.463 mm) (No. 16 Gage) shall cover the area of the pipe where the member is notched or bored and shall extend a minimum of 4 inches (102 mm) above sole plates, below top plates and to each side of a stud, joist or rafter.

502.4 Insulation shield. Where vents pass through insulated assemblies, an insulation shield constructed of steel not less than 26-gage sheet (0.016 inch) (0.4 mm) metal having a minimum thickness of 0.0187-inches (.4712 mm) (No. 26 Gage) shall be installed to provide clearance between the vent and the insulation material. The clearance shall not be less than the clearance to combustibles specified by the vent manufacturer's installation instructions. Where vents pass through attic space, the shield shall terminate not less than 2 inches (51 mm) above the insulation materials and shall be secured in place to prevent displacement. Insulation shields provided as part of a listed vent system shall be installed in accordance with the manufacturer's installation instructions.

502.7 Protection against physical damage. In concealed locations, where a vent is installed through holes or notches in studs, joists, rafters or similar members less than 1.5 inches (38 mm) from the nearest edge of the member, the vent shall be protected by shield plates. Protective steel shield plates shall be a minimum of 1/16-inch-thick (1.6 mm) steel, having a minimum thickness of 0.0575-inches (1.463 mm) (No. 16 Gage) shall cover the area of the vent where the member is notched or bored and shall extend a minimum of 4 inches (102 mm) above sole plates, below top plates and to each side of a stud, joist or rafter.

PART IV – IBC FIRE SAFETY

716.5.3 (Supp) Shaft enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire dampers are not required at penetrations of shafts where:
 - 1.1. Steel exhaust subducts are extended at least 22 inches (559 mm) vertically in exhaust shafts, provided there is a continuous airflow upward to the outside; or
 - 1.2. Penetrations are tested in accordance with ASTM E119 or UL263 as part of the fire-resistance rated assembly; or
 - 1.3. Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 and where the fire damper will interfere with the operation of the smoke control system; or
 - 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
2. In Group B and R occupancies, equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, smoke dampers are not required at penetrations of shafts where:
 - 2.1. Kitchen, clothes dryer, bathroom and toilet room exhaust openings are installed with steel exhaust subducts, having a wall thickness of at least 0.019 inch (0.48 mm); and minimum thickness of 0.0187-inches (0.4712 mm) (No. 26 Gage)
 - 2.2. That extend at least 22 inches (559 mm) vertically; and
 - 2.3. An exhaust fan is installed at the upper terminus of the shaft that is, powered continuously in accordance with the provisions of Section 909.11, so as to maintain a continuous upward airflow to the outside.
3. Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system.
5. Fire dampers and combination fire/smoke dampers are not required in kitchen and clothes dryer exhaust system when installed in accordance with the *International Mechanical Code*.

716.5.4 (Supp) Fire partitions. Ducts and air transfer openings that penetrate fire partitions shall be protected with listed fire dampers installed in accordance with their listing.

Exceptions: In occupancies other than Group H, fire dampers are not required where any of the following apply:

1. The partitions are tenant separation or corridor walls in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the duct is protected as a through penetration in accordance with Section 712.
2. Tenant partitions in covered mall buildings where the walls are not required by provisions elsewhere in the code to extend to the underside of the floor or roof sheathing, slab or deck above.
3. The duct system is constructed of approved materials in accordance with the *International Mechanical Code* and the duct penetrating the wall complies with all of the following requirements:
 - 3.1. The duct shall not exceed 100 square inches (0.06 m²).
 - 3.2. The duct shall be constructed of steel ~~a minimum of 0.0217 inch (0.55 mm) in thickness~~ having a minimum thickness of 0.0157-inches (0.3950 mm) (No. 28 Gage).
 - 3.3. The duct shall not have openings that communicate the corridor with adjacent spaces or rooms.
 - 3.4. The duct shall be installed above a ceiling.
 - 3.5. The duct shall not terminate at a wall register in the fire-resistance-rated wall.
 - 3.6. A minimum 12-inch-long (305 mm) ~~by 0.060-inch-thick (1.52 mm)~~ steel sleeve having a minimum thickness of 0.0575-inches (1.465 mm) (No. 16 Gage) shall be centered in each duct opening. The sleeve shall be secured to both sides of the wall and all four sides of the sleeve with minimum 1 1/2-inch by 1 1/2-inch by 0.060-inch (38 mm by 38 mm by 1.52 mm) steel retaining angles. The retaining angles shall be secured to the sleeve and the wall with No. 10 (M5) screws. The annular space between the steel sleeve and the wall opening shall be filled with mineral wool batting on all sides.

716.6.1(Supp) Through penetrations. In occupancies other than Groups I-2 and I-3, a duct constructed of approved materials in accordance with the *International Mechanical Code* that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection, provided a listed fire damper is installed at the floor line or the duct is protected in accordance with Section 712.4. For air transfer openings, see Exception 7 to Section 707.2.

Exception: A duct is permitted to penetrate three floors or less without a fire damper at each floor, provided it meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel ~~not less than 0.019 inch (0.48 mm) (26 gage) in thickness~~ having a minimum thickness of 0.0187-inches (0.4712 mm) (No. 26 Gage).
2. The duct shall open into only one dwelling or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.
3. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m²) in any 100 square feet (9.3 m²) of floor area.
4. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.
5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a listed ceiling radiation damper installed in accordance with Section 716.6.2.1.

Reason: The code has been inconsistent in its approach to decimals and the related gages. This is a much needed clean up in an attempt to bring consistency in language as it relates to stated decimals and gages. The gage should always accompany a decimal as most end users relate to a gage as opposed to a decimal. Some decimals were not accurate to the stated gage. Also, some of the gages stated in the tables were not consistent with the standard and were changed to reflect that. Now anyone can reference the SMACNA standard and go to Table A-2; A-4 and 3-5 and see where the numbers come from. A new footnote has been added to Tables 603.4, 803.9 (1) and 503.10.2.4 to direct the user to more information that doesn't necessarily need to be in the code. There are many combinations of gages and reinforcement methods available for use which means no one particular gage fits all situations. This itemized account will make things clearer as to the intent of this change.

Bibliography

SMACNA Duct Construction Standards, 2005, Table A-1 and A-3; Sheet Metal and Air Conditioning Contractors National Association, Inc.; Chantilly, VA.

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

Public Hearing Results

PART I – IMC

Committee Action:

Approved as Modified

Modify proposal as follows:

307.2.3 Auxiliary and secondary drain systems. In addition to the requirements of Section 307.2.1, a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil or fuel-fired appliance that produces condensate, where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping. One of the following methods shall be used:

1. An auxiliary drain pan with a separate drain shall be provided under the coils on which condensation will occur. The auxiliary pan drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The pan shall have a minimum depth of 1.5 inches (38 mm), shall not be less than 3 inches (76 mm) larger than the unit or the coil dimensions in width and length and shall be constructed of corrosion-resistant material. Galvanized sheet steel pans shall have a minimum thickness of not less than 0.0236-inch (0.6010 mm) (No. 24 gage) ~~galvanized sheet metal~~. Nonmetallic pans shall have a minimum thickness of not less than 0.0625-inch (1.6 mm).
2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.
3. An auxiliary drain pan without a separate drain line shall be provided under the coils on which condensate will occur. Such pan shall be equipped with a water-level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section.
4. A water level detection device conforming to UL 508 shall be provided that will shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line, or in the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

Exception: Fuel-fired appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.

**TABLE 803.9(1)
MINIMUM CHIMNEY CONNECTOR THICKNESS FOR
LOW-HEAT APPLIANCES^a**

DIAMETER OF CONNECTOR (inches)	MINIMUM NOMINAL THICKNESS (galvanized) (inches) (mm)
5 and smaller	0.022 (No. 26 Gage)
Larger than 5 and up to 10	0.028 (No. 24 Gage)
Larger than 10 and up to 16	0.034 (No. 22 Gage)
14 inches and less	0.0157 (.3950 mm) (No. 28 Gage)
Larger than 16 46 and 18-inch ^a	0.064 (No. 16 Gage) 0.0187 (.4712 mm) (No. 26 Gage)

For SI: 1 inch = 25.4 mm.

a. For sizes larger than 18 inches SMACNA Duct Construction Standard, Table 3-5 shall apply.

(Portions of proposal not shown remain unchanged.)

Committee Reason: This code change provides consistency between the I-codes and SMACNA’s Duct Construction Standards related to sheet metal thicknesses. Both the decimal and gage designations of thickness have been revised. The modification deleted duplicated language in Section 307.2.3 and reverted Table 803.9(1) back to the current code language because that table is for oil-burning appliance connectors and there was concern that reducing the wall thicknesses was not justified for such high heat applications.

Assembly Action: **None**

PART II – IRC-M

Committee Action: **Approved as Modified**

Modify proposal as follows:

**TABLE M1803.2
THICKNESS FOR SINGLE-WALL METAL PIPE CONNECTORS^a**

DIAMETER OF CONNECTOR (inches)	GALVANIZED SHEET METAL GAGE NUMBER	MINIMUM THICKNESS (inch) (mm)
<u>Less than 6</u>	<u>26</u>	<u>0.019</u>
<u>6 to 10</u> 14 inches and less	<u>24</u> <u>28</u>	<u>0.024</u> 0.0157 (.3950 mm)
<u>Over 10 through 16</u> 16 and 18 inch ^a	<u>22</u> <u>26</u>	<u>0.029</u> 0.0187 (.4712 mm)

For SI: 1 inch = 25.4 mm.

a. For sizes larger than 18 inches SMACNA Duct Construction Standard, Table 3-5 shall apply.

(Portions of proposal not shown remain unchanged.)

Committee Reason: This code change provides consistency between the I-codes and SMACNA’s Duct Construction Standards related to decimal and gage designations of sheet metal thicknesses. The modification reverted Table M1803.2 back to the current code language because that table is for oil-burning appliance connectors and there was concern that reducing the wall thicknesses was not justified for such high heat applications.

Assembly Action: **None**

PART III – IFGC

Committee Action: **Approved as Submitted**

Committee Reason: The proposed revisions make the code more user-friendly by providing a gage number in addition to a minimum thickness number. For consistency, the gage number designations and thicknesses have been aligned with those in the SMACNA duct construction standard.

Assembly Action: **None**

PART IV – IBC FIRE SAFETY

Committee Action: **Approved as Modified**

Modify proposal as follows:

716.5.3 (Supp) Shaft enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire dampers are not required at penetrations of shafts where:
 - 1.1. Steel exhaust subducts are extended at least 22 inches (559 mm) vertically in exhaust shafts, provided there is a continuous airflow upward to the outside; or
 - 1.2. Penetrations are tested in accordance with ASTM E119 or UL263 as part of the fire-resistance rated assembly; or
 - 1.3. Ducts are used as part of an approved smoke control system designed and installed in accordance with Section 909 and where the fire damper will interfere with the operation of the smoke control system; or
 - 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
2. In Group B and R occupancies, equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, smoke dampers are not required at penetrations of shafts where:
 - 2.1. Kitchen, clothes dryer, bathroom and toilet room exhaust openings are installed with steel exhaust subducts, having a minimum wall thickness of 0187-inches (0.4712 mm) (No. 26 Gage)
 - 2.2. That extend at least 22 inches (559 mm) vertically; and
 - 2.3. An exhaust fan is installed at the upper terminus of the shaft that is, powered continuously in accordance with the provisions of Section 909.11, so as to maintain a continuous upward airflow to the outside.

3. Smoke dampers are not required at penetration of exhaust or supply shafts in parking garages that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
4. Smoke dampers are not required at penetrations of shafts where ducts are used as part of an approved mechanical smoke control system designed in accordance with Section 909 and where the smoke damper will interfere with the operation of the smoke control system.
5. Fire dampers and combination fire/smoke dampers are not required in kitchen and clothes dryer exhaust system when installed in accordance with the *International Mechanical Code*.

716.5.4 (Supp) Fire partitions. Ducts and air transfer openings that penetrate fire partitions shall be protected with listed fire dampers installed in accordance with their listing.

Exceptions: In occupancies other than Group H, fire dampers are not required where any of the following apply:

1. The partitions are tenant separation or corridor walls in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the duct is protected as a through penetration in accordance with Section 712.
2. Tenant partitions in covered mall buildings where the walls are not required by provisions elsewhere in the code to extend to the underside of the floor or roof sheathing, slab or deck above.
3. The duct system is constructed of approved materials in accordance with the *International Mechanical Code* and the duct penetrating the wall complies with all of the following requirements:
 - 3.1. The duct shall not exceed 100 square inches (0.06 m²).
 - 3.2. The duct shall be constructed of steel a minimum of 0.0217- inch (0.55 mm) in thickness ~~having a minimum thickness of 0.0157- inches (0.3950 mm) (No. 28 Gage).~~
 - 3.3. The duct shall not have openings that communicate the corridor with adjacent spaces or rooms.
 - 3.4. The duct shall be installed above a ceiling.
 - 3.5. The duct shall not terminate at a wall register in the fire-resistance-rated wall.
 - 3.6. A minimum 12-inch-long (305 mm) by 0.060-inch thick (1.52 mm) steel sleeve ~~having a minimum thickness of 0.0575 inches (1.465 mm) (No. 16 Gage)~~ shall be centered in each duct opening. The sleeve shall be secured to both sides of the wall and all four sides of the sleeve with minimum 11/2-inch by 11/2-inch by 0.060-inch (38 mm by 38 mm by 1.52 mm) steel retaining angles. The retaining angles shall be secured to the sleeve and the wall with No. 10 (M5) screws. The annular space between the steel sleeve and the wall opening shall be filled with mineral wool batting on all sides.

716.6.1(Supp) Through penetrations. In occupancies other than Groups I-2 and I-3, a duct constructed of approved materials in accordance with the *International Mechanical Code* that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection, provided a listed fire damper is installed at the floor line or the duct is protected in accordance with Section 712.4. For air transfer openings, see Exception 7 to Section 707.2.

Exception: A duct is permitted to penetrate three floors or less without a fire damper at each floor, provided it meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel having a minimum wall thickness of 0.0187-inches ((0.4712 mm) (No. 26 Gage).
2. The duct shall open into only one dwelling or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.
3. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m²) in any 100 square feet (9.3 m²) of floor area.
4. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01-inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.
5. Grille openings located in a ceiling of a fire-resistance- rated floor/ceiling or roof/ceiling assembly shall be protected with a listed ceiling radiation damper installed in accordance with Section 716.6.2.1.

Committee Reason: The committee agreed that this revised language was appropriate to bring consistency in language as it relates to decimals and gages stated within the code. Further, the committee agreed that the modification adding the term "wall" in two places to define thickness was an appropriate clarification. Lastly, the committee agreed with the modification to undo the proposed changes for items 3.2 and 3.6 of Section 716.5.4 based on the fact that these thicknesses were based on specific testing results.

Assembly Action:

None

Final Hearing Results

M16-07/08, Part I	AM
M16-07/08, Part II	AM
M16-07/08, Part III	AS
M16-07/08, Part IV	AM

Code Change No: **M17-07/08**

Original Proposal

Table 308.6; IRC Table M1306.2

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Revise table as follows:

**TABLE 308.6
CLEARANCE REDUCTION METHODS^b**

(No change to table)

For SI: 1 inch = 25.4 mm, °C = [(°F)-32]/1.8, 1 pound per cubic foot = 16.02 kg/m³, 1.0 Btu • in/ft² • h • °F = 0.144 W/m² • K.

- a. (No change)
- b. For limitations on clearance reduction for solid fuel-burning appliances, see Section 308.7

Reason: There have been cases where 308.7 is being overlooked, thus installers have been attempting to install solid fuel appliances with 6 and 9-inch clearances when 12 is the absolute minimum. This footnote will aid in the proper installation of solid fuel appliances.

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

PART II – IRC-M

Revise table as follows:

**TABLE M1306.2
REDUCTION OF CLEARANCES WITH SPECIFIED FORMS OF PROTECTION^{a,b,c,d,e,f,g,h,i,j,k,l}**

(Portions of table not shown remain unchanged)

For SI: 1 inch = 25.4 mm, 1 pound per cubic foot = 16.019 kg/m³, °C = [(°F)-32/1.8], 1 Btu/(h • ft² • °F/in.) = 0.001442299 (W/cm² • °C/cm).

- a. through k. (No change)
- b. For limitations on clearance reduction for solid fuel-burning appliances see Section M1306.2.1.

Reason: There have been cases where M1306.2.1 is being overlooked, thus installers have been attempting to install solid fuel appliances with 6 and 9-inch clearances when 12 is the absolute minimum. This footnote will aid in the proper installation of solid fuel appliances.

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

Public Hearing Results

PART I – IMC

Committee Action:

Disapproved

Committee Reason: There are other items in Section 308, such as masonry chimneys and kitchen exhaust ducts, that have limitations on clearance reduction methods in Table 308.6. To only have a note for solid fuel-burning appliances might cause users to think they can use the table for those other items.

Assembly Action:

None

PART II – IRC-M**Committee Action:****Approved as Submitted**

Committee Reason: The added footnote will point users to Section M1306.2.1 to clarify that 12 inches is the absolute minimum clearance to combustibles for solid fuel-burning appliances and that the reduced clearances in the table are not allowed.

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:

Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO) requests Approval as Modified by this Public Comment of Part I.

Modify proposal as follows:

**TABLE 308.6
CLEARANCE REDUCTION METHODS^b**
(No change to table)

For SI: 1 inch = 25.4 mm, °C = [(°F)-32]/1.8, 1 pound per cubic foot = 16.02 kg/m³, 1.0 Btu • in/ft² • h • °F = 0.144 W/m² • K.

- a. (No change)
- b. For limitations on clearance reduction for solid fuel-burning appliances, masonry chimneys, connector pass-throughs, masonry fireplaces and kitchen exhaust ducts, see Sections 308.7 through 308.11.

Commenter's Reason: This change was originally intended for solid fuel-burning appliances only because that was where the most common infractions were occurring. The committee was concerned that not addressing the other limitations on masonry fireplaces, chimneys etc. might cause users to think they could use the table for those other items. All those other items were included now in the footnote. This will provide the user with even greater guidance thereby cutting cost and time making corrections. This was approved as submitted in the IRC.

Final Hearing Results

**M17-07/08, Part I
M17-07/08, Part II**

**AMPC
AS**

Code Change No: M18-07/08

Original Proposal

Section 312.1, Chapter 15 (New)

Proponents: Wesley R. Davis, Air Conditioning Contractors of America; Steve Ferguson, American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)

1. Revise as follows:

312.1 Load calculations. Heating and cooling system design loads for the purpose of sizing systems, appliances and equipment shall be determined in accordance with the procedures described in the ASHRAE/ACCA Standard 183 Handbook of Fundamentals. Heating and cooling loads shall be adjusted to account for load reductions that are achieved when energy recovery systems are utilized in the HVAC system in accordance with the ASHRAE Handbook - HVAC Systems and Equipment. Alternatively, design loads shall be determined by an approved equivalent computation procedure, using the design parameters specified in Chapter 3 of the *International Energy Conservation Code*.

2. Add standard to Chapter 15 as follows:

ASHRAE/ACCA

Standard 183-2007

Peak Cooling and Heating Load Calculations in Buildings Except Low-Rise Residential Buildings

Reason: ANSI/ASHRAE/ACCA Standard 183 – 2007, *Peak Cooling and Heating Load Calculations in Buildings Except Low-Rise Residential Buildings* was recently approved as the new ANSI standard for structures and premises set forth in §101 of the International Mechanical Code. This document standardizes the methodology in the *Handbook of Fundamentals* and is suitable to replace the Handbook as the reference document.

ANSI/ASHRAE/ACCA Standard 183 – 2007 sets the minimum requirements for methods and procedures used to perform peak cooling and heating load calculations.

ANSI/ASHRAE/ACCA Standard 183 - 2007 is the ANSI standard for commercial peak heating and cooling load calculations.

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 ANSI/ASHRAE/ACCA Standard 183-2007 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Modified

Modify proposal as follows:

312.1 Load calculations. Heating and cooling system design loads for the purpose of sizing systems, appliances and equipment shall be determined in accordance with the procedures described in the ASHRAE/ACCA Standard 183. ~~Heating and cooling loads shall be adjusted to account for load reductions that are achieved when energy recovery systems are utilized in the HVAC system in accordance with the ASHRAE Handbook – HVAC Systems and Equipment.~~ Alternatively, design loads shall be determined by an approved equivalent computation procedure, using the design parameters specified in Chapter 3 of the *International Energy Conservation Code*.

(Portions of proposal not shown remain unchanged.)

Committee Reason: ASHRAE/ACCA 183 is the ANSI approved standard for commercial peak heating and cooling load calculations and contains all of the necessary information from the ASHRAE Handbook of Fundamentals. It is appropriate to replace the Handbook with this standard because the Handbook is not a standard that meets ICC criteria. The modification deletes the second sentence because the adjustments for load reductions are also included in the new standard.

Assembly Action:

None

Final Hearing Results

M18-07/08

AM

Code Change No: M22-07/08

Original Proposal

Sections: 401.4, 401.4.1, 401.4.2, 401.4.3, 401.5, Table 401.5, 501.2.1, 501.2.2 (New)

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

1. Delete and substitute as follows:

~~**401.4 Opening location.** Outdoor air exhaust and intake openings shall be located a minimum of 10 feet (3048 mm) from lot lines or buildings on the same lot. Where openings front on a street or public way, the distance shall be measured to the centerline of the street or public way.~~

Exceptions:

1. ~~Group R-3.~~
2. ~~Exhaust outlets for environmental air exhaust openings shall be located not less than 3 feet (914 mm) from property lines and not less than 3 feet (914 mm) from openings into the building.~~

401.4 Intake opening location. Air intake openings shall comply with all of the following:

1. Intake openings shall be located a minimum of 10-feet (3048 mm) from lot lines or buildings on the same lot. Where openings front on a street or public way, the distance shall be measured to the centerline of the street or public way.
2. Mechanical and gravity outdoor air intake openings shall be located not less than 10-feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, streets, alleys, parking lots and loading docks, except as specified in Item 3 or Section 501.2.1.
3. Intake openings shall be located not less than 3-feet below or 25 feet above contaminant sources where such sources are located within 10-feet (3048 mm) of the opening.

2. Delete without substitution:

401.4.1 (Supp) Intake openings. ~~Mechanical and gravity outdoor air intake openings shall be located a minimum of 10 feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, chimneys, plumbing vents, streets, alleys, parking lots and loading docks, except as otherwise specified in this code. Where a source of contaminant is located within 10 feet (3048 mm) horizontally of an intake opening, such opening shall be located a minimum of 2 feet (610 mm) below the contaminant source.~~

~~Environmental air exhausted from a residential dwelling shall not be considered to be a hazardous or noxious contaminant.~~

401.4.2 Exhaust openings. ~~Outdoor exhaust openings shall be located so as not to create a nuisance. Exhaust air shall not be directed onto walkways.~~

[B] 401.4.3 Flood hazard. ~~For structures located in flood hazard areas, outdoor exhaust openings shall be at or above the design flood elevation.~~

3. Revise as follows:

401.5 Outdoor Intake opening protection. ~~Air exhaust and~~ intake openings that terminate outdoors shall be protected with corrosion- resistant screens, louvers or grilles. Openings in louvers, grilles and screens shall be sized in accordance with Table 401.5, and shall be protected against local weather conditions. ~~Outdoor air exhaust and~~ intake openings located in exterior walls shall meet the provisions for exterior wall opening protectives in accordance with the *International Building Code*.

**TABLE 401.5
OPENING SIZES IN LOUVERS, GRILLES AND
SCREENS PROTECTING OUTDOOR EXHAUST AND AIR INTAKE OPENINGS**

OUTDOOR OPENING TYPE	MINIMUM AND MAXIMUM OPENING SIZES IN LOUVERS, GRILLES AND SCREENS MEASURED IN ANY DIRECTION
Exhaust openings	Not < ¼ inch and not > ½ inch
Intake openings in residential occupancies	Not < ¼ inch and not > ½ inch
Intake openings in other than residential occupancies	> ¼ inch and not > 1 inch

For SI: 1 inch = 25.4 mm.

501.2.1 (Supp) Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.

- 2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.
- 3. ~~Environmental air duct exhaust terminations shall comply with Section 401.4.~~

Exception: Exhaust from bathrooms and kitchens in residential dwellings complying with Section 401.4.1.

- 3. For all environmental air exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious.
- 4. For specific systems see the following sections:
 - 4.1. Clothes dryer exhaust, Section 504.4
 - 4.2. Kitchen hoods and other kitchen exhaust equipment, Sections 506.3.12, 506.4 and 506.5
 - 4.3. Dust, stock and refuse conveying systems, Section 511.2
 - 4.4. Subslab soil exhaust systems, Section 512.4, ~~and~~
 - 4.5. Smoke control systems, Section 513.10.3
 - 4.6. Refrigerant discharge, Section 1105.7
 - 4.7. Machinery room discharge, Section 1105.6.1

4. Add new text as follows:

501.2.1.1 Exhaust discharge. Exhaust air shall not be directed onto walkways. Exhaust outlets serving structures in hazardous locations shall be installed at or above the designed flood elevation

501.2.2 Exhaust opening protection. Exhaust openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles. Openings in screens, louvers and grilles shall be not less than ¼ inch and not greater than ½-inch in size, measured in any direction. Openings shall be protected against local weather conditions. Outdoor openings located in exterior walls shall meet the provisions for exterior wall opening protectives in accordance with the *International Building Code*.

Reason: This is an effort to bring order and consistency to these two sections. These sections are broken and in serious need of re-organization. First of all, to have exhaust openings mixed in with intake openings in a ventilation chapter doesn't make a whole lot of sense. All references to exhaust openings have been relocated to chapter 5 where they belong. All requirements for intake openings will remain in chapter 4 where they belong. Intake openings have been re-organized in an easy to read format with no current requirements omitted. Table 401.5 requirements for exhaust openings have been relocated to the new 501.2.2. Section 501.2.1 #3 has been stricken and the exceptions also as it excluded kitchen and bath from any requirements at all. Section 401.4 has been stricken in its entirety along with the exceptions because 501.2.1 #3 includes ALL environmental exhaust so there is no need for an exception. Also 401.3 has been relocated to 501.2.1 as well. The 2-foot dimension has been changed to 3-feet as it is consistent with IMC-918.6; IRC-G2427.7; G2427.8 #1; and IFGC Sections 503.6.7 and 618.5. A new 25 feet dimension has been added so as not to prohibit an opening to be installed less than 10-feet from contaminants if the opening is positioned much higher than the contaminant source.

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

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The code change needs further work to correct some issues such as the apparent conflict between the 10 foot and 25 foot distances in Section 401.4, Item 3. The term "hazardous locations" in Section 501.2.1.1 should probably be "flood hazard areas".

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:

Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO), requests Approval as Modified by this Public Comment.

Modify proposal as follows:**401.4 Intake opening location.** Air intake openings shall comply with all of the following:

1. Intake openings shall be located a minimum of 10-feet (3048 mm) from lot lines or buildings on the same lot. Where openings front on a street or public way, the distance shall be measured to the centerline of the street or public way.
2. Mechanical and gravity outdoor air intake openings shall be located not less than 10-feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, streets, alleys, parking lots and loading docks, except as specified in item 3 or section 501.2.1.
3. Intake openings shall be located not less than 3-feet below ~~or 25-feet above~~ contaminant sources where such sources are located within 10-feet (3048 mm) of the opening.
4. Intake openings on structures in flood hazard areas shall be at or above the design flood level.

401.5 Intake opening protection. Air intake openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles. Openings in louvers, grilles and screens shall be sized in accordance with Table 401.5, and shall be protected against local weather conditions. Outdoor air intake openings located in exterior walls shall meet the provisions for exterior wall opening protectives in accordance with the International Building Code.

**TABLE 401.5
OPENING SIZES IN LOUVERS, GRILLES AND
SCREENS PROTECTING AIR INTAKE OPENINGS**

OUTDOOR OPENING TYPE	MINIMUM AND MAXIMUM OPENING SIZES IN LOUVERS, GRILLES AND SCREENS MEASURED IN ANY DIRECTION
Intake openings in residential occupancies	Not < ¼ inch and not > ½ inch
Intake openings in other than residential occupancies	> ¼ inch and not > 1 inch

501.2.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.
2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.
3. For all environmental air exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious.
4. Exhaust outlets serving structures in flood hazard areas shall be installed at or above the design flood level.
- ~~4.5.~~ For specific systems see the following Sections:
 - ~~4.1~~ 5.1. Clothes dryer exhaust, Section 504.4
 - ~~4.2~~ 5.2. Kitchen hoods and other kitchen exhaust equipment, Sections 506.3.12; 506.4 and 506.5
 - ~~4.3~~ 5.3 Dust stock and refuse conveying systems, Section 511.12
 - ~~4.4~~ 5.4 Sub-slab soil exhaust systems, Section 512.4
 - ~~4.5~~ 5.5 Smoke control systems, Section 513.10.3
 - ~~4.6~~ 5.6 Refrigerant discharge, Section 1105.7
 - ~~4.7~~ 5.7 Machinery room discharge, Section 1105.6.1

501.2.1.1 Exhaust discharge. Exhaust air shall not be directed onto walkways. ~~Exhaust outlets serving structures in hazardous locations shall be installed at or above the designed flood elevation.~~

501.2.2 Exhaust opening protection. Exhaust openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles. Openings in screens, louvers and grilles shall be sized not less than ¼ inch and not greater than ½-inch. ~~measured in any direction.~~ Openings shall be protected against local weather conditions. Outdoor openings located in exterior walls shall meet the provisions for exterior wall opening protectives in accordance with the *International Building Code*.

Commenter's Reason: The committee was receptive to this proposal but said it needed a little more work, to fix it and bring it back, which is what we did. This change accomplishes several things. First of all it removes conflicting language that would have otherwise gone to print as a result of several changes being approved last cycle all covering the same subject matter. Second, this proposal establishes where intake and exhaust openings really belong, that being exhaust openings in Chapter 5 and intakes in Chapter 4 where they should logically reside. This is an important cleanup that will eliminate any confusion as to the direction the code is taking with regard to these openings.

Final Hearing Results

M22-07/08

AMPC

Code Change No: **M23-07/08**

Original Proposal

Section 403.2.1

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

403.2.1 (Supp) Recirculation of air. The outdoor air required by Section 403.3 shall not be recirculated. Air in excess of that required by Section 403.3 shall not be prohibited from being recirculated as a component of supply air to building spaces, except that:

1. Ventilation air shall not be recirculated from one dwelling to another or to dissimilar occupancies.
2. Supply air to a swimming pool and associated deck areas shall not be recirculated unless such air is dehumidified to maintain the relative humidity of the area at 60 percent or less. Air from this area shall not be recirculated to other spaces where more than 10 percent ~~or more~~ of the resulting supply airstream consists of air recirculated from these spaces.
3. Where mechanical exhaust is required by Note b in Table 403.3, recirculation of air from such spaces shall be prohibited. All air supplied to such spaces shall be exhausted, including any air in excess of that required by Table 403.3.
4. Where mechanical exhaust is required by Note g in Table 403.3, mechanical exhaust is required and recirculation is prohibited where more than 10 percent ~~or more~~ of the resulting supply airstream consists of air recirculated from these spaces.

Reason: This is a simple fix to make items #2 and 4 consistent with footnote g. of Table 403.3 . Footnote g. states that not more than 10% can be recirculated, so exactly 10% could be recirculated. Items 2 and 4 say 10% or more is prohibited from being re-circulated, so, exactly 10% could NOT be recirculated. This change makes it clear that not more than exactly 10% can be recirculated

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 is necessary to correct an inconsistency between Section 403.2.1 and note "g" to Table 403.3. Items # 2 and # 3 prohibit recirculation where the airstream consists of exactly 10% contaminated air, but, note "g" allows recirculation where the airstream consists of exactly 10% contaminated air. Exactly 10 % falls in both the allowed and disallowed categories.

Assembly Action:

None

Final Hearing Results

M23-07/08

AS

Code Change No: **M27-07/08**

Original Proposal

Section 501.2.1

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

501.2.1 (Supp) Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.
2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.
3. Environmental air duct exhaust terminations shall comply with Section 401.4.

Exception: Exhaust from bathrooms and kitchens in residential dwellings complying with Section 401.4.1.

4. For specific systems see the following sections:
 - 4.1. Clothes dryer exhaust, Section 504.4
 - 4.2. Kitchen hoods and other kitchen exhaust equipment, Sections 506.3.12, 506.4 and 506.5
 - 4.3. Dust, stock and refuse conveying systems, Section 511.2
 - 4.4. Subslab soil exhaust systems, Section 512.4, and
 - 4.5. Smoke control systems, Section 513.10.3
 - 4.6. Refrigeration machinery room discharge, Section 1105.6.1

Reason: Section 1105.6.1 steers toward Chapter 5 in general, but the general termination requirements in item 4 don't apply to the specific requirement of 1105.6.1. This creates confusion as to which termination point should be used. Is it 20-feet to property lines and 20-feet to openings, or is it 30-feet to property lines and 10-feet to openings. In this case, the specific requirement should rule and referencing this section here will eliminate any confusion as to which termination point prevails.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: None of the specific systems in Item 4 would cover refrigeration machinery rooms. This code change provides a pointer to the appropriate section for the exhaust discharge termination location.

Assembly Action:

None

Final Hearing Results

M27-07/08

AS

Code Change No: **M30-07/08**

Original Proposal

Sections: 504.6, 504.6.1, 504.6.2, 504.6.3 (New), 504.6.4 (New), 504.6.4.1 (New), 504.6.4.2 (New), 504.6.4.3 (New), 504.6.5 (New), Table 504.6.5 (New), 504.6.6 (New), 504.6.7 (New) [IFGC [M] 614.6, [M] 614.6.1, [M] 614.6.2, [M] 614.6 through [M] 614.6.7 (New)]; IRC M1502.3, M1502.3.1 (New), M1502.3.2 (New), M1502.3.3 (New), M1502.3.4 (New), M1502.3.4.1 (New), M1502.3.4.2 (New), M1502.3.4.3 (New), M1502.3.5 (New), Table M1502.3.5 (New), M1502.3.6 (New), M1502.3.7 (New), M1502.4, M1502.5, M1502.6, M1502.3 (New)

Proponent: Julius Ballanco, PE, JB Engineering and Code Consulting, PC, representing In-O-Vate Technologies

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

1. Delete and substitute as follows:

~~**504.6 Domestic clothes dryer ducts.** Exhaust ducts for domestic clothes dryers shall be constructed of metal and shall have a smooth interior finish. The exhaust duct shall be a minimum nominal size of 4 inches (102 mm) in diameter. The entire exhaust system shall be supported and secured in place. The male end of the duct at overlapped duct joints shall extend in the direction of airflow. Clothes dryer transition ducts used to connect the appliance to the exhaust duct system shall be limited to single lengths not to exceed 8 feet (2438 mm) and shall be listed and labeled for the application. Transition ducts shall not be concealed within construction.~~

~~**504.6.1 (Supp) Maximum length.** The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location to the outlet terminal. The maximum length of the duct shall be reduced 2 1/2 feet (762 mm) for each 45 degree (0.79 rad) bend and 5 feet (1524 mm) for each 90 degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.~~

~~**Exception:** Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for such dryer are provided to the code official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions. Where exhaust ducts are installed in concealed locations, the developed length of the exhaust duct system shall be indicated by permanent labels or tags installed in an observable location.~~

~~**504.6.2 Rough-in required.** Where a compartment or space for a domestic clothes dryer is provided, an exhaust duct system shall be installed in accordance with Sections 504.6 and 504.6.1.~~

~~**504.6 (IFGC [M] 614.6) Domestic clothes dryer exhaust ducts.** Exhaust ducts for domestic clothes dryers shall conform to the requirements of Sections 504.6.1 through 504.6.7.~~

~~**504.6.1 (IFGC [M] 614.6.1) Material and size.** Exhaust ducts shall have a smooth interior finish and shall be constructed of metal a minimum 0.016-inch (0.4 mm) thick. The exhaust duct size shall be 4 inches nominal in diameter.~~

~~**504.6.2 (IFGC [M] 614.6.2) Duct installation.** Exhaust ducts shall be supported at 4 foot intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct.~~

~~**504.6.3 (IFGC [M] 614.6.3) Transition ducts.** Transition ducts used to connect the dryer to the exhaust duct system shall be a single length that is listed and labeled in accordance with UL 2158A. Transition ducts shall be a maximum of 8 feet in length. Transition ducts shall not be concealed within construction.~~

504.6.4 (IFGC [M] 614.6.4) Duct length. The maximum allowable exhaust duct length shall be determined by one of the methods specified in Sections 504.6.4.1 through 504.6.4.3.

504.6.4.1 (IFGC [M] 614.6.4.1) Specified length. The maximum length of the exhaust duct shall be 25 feet (7620mm) from the connection to the transition duct from the dryer to the outlet terminal.

504.6.4.2 (IFGC [M] 614.6.4.2) Manufacturer's instructions. The maximum length of the exhaust duct shall be determined by the dryer manufacturer's installation instructions. The code official shall be provided with a copy of the installation instructions for the make and model of the dryer.

504.6.4.3 (IFGC [M] 614.6.4.3) Booster fan. The maximum length of the exhaust duct shall be determined by the booster fan manufacturer's installation instructions. Booster fans shall be listed and labeled for use in dryer exhaust duct systems. The booster fan shall be installed in accordance with the manufacturer's installation instructions.

504.6.5 (IFGC [M] 614.6.5) Exhaust duct length reduction. The maximum length of the exhaust duct shall be reduced in accordance with Table 504.6.5.

**TABLE 504.6.5 (IFGC [M] TABLE 614.6.5)
DRYER EXHAUST DUCT FITTING EQUIVALENT LENGTH**

Dryer Exhaust Duct Fitting Type	Equivalent Length (feet)
4" radius mitered 45 degree elbow	2-1/2
4" radius mitered 90 degree elbow	5
6" radius smooth 45 degree elbow	1
6" radius smooth 90 degree elbow	1-3/4
8" radius smooth 45 degree elbow	1
8" radius smooth 90 degree elbow	1-7/12
10" radius smooth 45 degree elbow	3/4
10" radius smooth 90 degree elbow	1-1/2

504.6.6 (IFGC [M] 614.6.6) Length identification. Where the exhaust duct is concealed within the building construction, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet of the exhaust duct connection.

504.6.7 (IFGC [M] 614.6.7) Exhaust duct required. Where facilities for a clothes dryer are provided, an exhaust duct system shall be installed.

PART II – IRC-M

Delete and substitute as follows:

M1502.3 Duct size. The diameter of the exhaust duct shall be as required by the clothes dryer's listing and the manufacturer's installation instructions.

M1502.4 Transition ducts. Transition ducts shall not be concealed within construction. Flexible transition ducts used to connect the dryer to the exhaust duct system shall be limited to single lengths, not to exceed 8 feet (2438 mm) and shall be listed and labeled in accordance with UL 2158A.

M1502.5 Duct construction. Exhaust ducts shall be constructed of minimum 0.016-inch-thick (0.4 mm) rigid metal ducts, having smooth interior surfaces with joints running in the direction of air flow. Exhaust ducts shall not be connected with sheet-metal screws or fastening means which extend into the duct.

M1502.6 (Supp) Duct length. The maximum length of a clothes dryer exhaust duct shall not exceed 35 feet (10 668 mm) from the dryer location to the wall or roof termination. The maximum length of the duct shall be reduced 2.5 feet (762 mm) for each 45-degree (0.8 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exceptions:

1. Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for the dryer are provided to the building official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions.

2. ~~Where large radius 45 degree (0.8 rad) and 90 degree (1.6 rad) bends are installed, the equivalent length of the clothes dryer exhaust duct for each bend shall be as provided in the fitting manufacturer's installation instructions. The engineering calculation used by the manufacturer of such fittings shall be in accordance with the ASHRAE Fundamentals Handbook.~~

M1502.3 Dryer exhaust ducts. Dryer exhaust ducts shall conform to the requirements of Sections M1502.3.1 through M1502.3.7.

M1502.3.1 Material and size. Exhaust ducts shall have a smooth interior finish and shall be constructed of metal a minimum 0.016-inch (0.4 mm) thick. The exhaust duct size shall be 4 inches nominal in diameter.

M1502.3.2 Duct installation. Exhaust ducts shall be supported at 4 foot intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct.

M1502.3.3 Transition duct. Transition ducts used to connect the dryer to the exhaust duct system shall be a single length that is listed and labeled in accordance with UL 2158A. Transition ducts shall be a maximum of 8 feet in length. Transition ducts shall not be concealed within construction.

M1502.3.4 Duct length. The maximum allowable exhaust duct length shall be determined by one of the methods specified in Sections M1502.3.4.1 through M1502.3.4.3.

M1502.3.4.1 Specified length. The maximum length of the exhaust duct shall be 25 feet (7620mm) from the connection to the transition duct from the dryer to the outlet terminal.

M1502.3.4.2 Manufacturer's instructions. The maximum length of the exhaust duct shall be determined by the dryer manufacturer's installation instructions. The code official shall be provided with a copy of the installation instructions for the make and model of the dryer.

M1502.3.4.3 Booster fan. The maximum length of the exhaust duct shall be determined by the booster fan manufacturer's installation instructions. Booster fans shall be listed and labeled for use in dryer exhaust duct systems. The booster fan shall be installed in accordance with the manufacturer's installation instructions.

M1502.3.5 Exhaust duct length reduction. The maximum length of the exhaust duct shall be reduced in accordance with Table M1502.3.5.

**TABLE M1502.3.5
DRYER EXHAUST DUCT FITTING EQUIVALENT LENGTH**

<u>Dryer Exhaust Duct Fitting Type</u>	<u>Equivalent Length (feet)</u>
<u>4" radius mitered 45 degree elbow</u>	<u>2-1/2</u>
<u>4" radius mitered 90 degree elbow</u>	<u>5</u>
<u>6" radius smooth 45 degree elbow</u>	<u>1</u>
<u>6" radius smooth 90 degree elbow</u>	<u>1-3/4</u>
<u>8" radius smooth 45 degree elbow</u>	<u>1</u>
<u>8" radius smooth 90 degree elbow</u>	<u>1-7/12</u>
<u>10" radius smooth 45 degree elbow</u>	<u>3/4</u>
<u>10" radius smooth 90 degree elbow</u>	<u>1-1/2</u>

M1502.3.6 Length identification. Where the exhaust duct is concealed within the building construction, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet of the exhaust duct connection.

M1502.3.7 Exhaust duct required. Where facilities for a clothes dryer are provided, an exhaust duct system shall be installed.

Reason (Part I): Over the past few code change cycles, the requirements for dryer exhaust venting has been subject to extensive changes. As a result, the requirements are not properly coordinated. The only feasible means of correctly the text is to provide all new language that is coordinated and contains all of the technically correct requirements.

The initial section establishes that the following section apply to dryer exhaust ducts. The specific requirements are found in the remaining section.

Section 504.6.1 has the requirements for a metal duct as currently found in the code. The change is the requirements for the duct to be 4 inches nominal in diameter. A mm equivalent is not provided since it is a nominal dimension. The current code requires a 4 inch minimum. However, if the duct is increased to 5 inch, the velocity in the exhaust duct drops significantly. The larger duct will not provide the minimum velocity to remove the moisture and any lint that gets into the exhaust duct.

Section 504.6.2 identifies a new requirement for support. Other than having an arbitrary statement, the support is required every 4 feet. This is a typical spacing for supporting a 4 inch duct with insert joints. The other change is to the proper terminology. Male end is no longer used in the profession. It is either an insert end or in the case of threads an outside thread.

Section 504.6.3 simply isolates the requirements for a transition duct. The current text is often missed since it is located within a section of exhaust duct length. The UL standard is currently listed in the Residential Code, but not the Mechanical Code.

Section 504.6.4 provides the three options for maximum exhaust duct length. The first requirement is 25 feet with is the current requirement in the Mechanical Code and Fuel Gas Code. While the Residential Code has a 35 foot limitation, this distance is incorrect. Stack type washers and dryers stipulate a maximum length of 25 feet. Hence, the length cannot be listed as 35 feet.

When the dryer has been specified, the manufacturer's instructions can be used to determine the dryer vent length. This is currently written as an exception; however, it is really an option. The requirements are the same as the current code.

The third viable method is power venting using a dryer booster fan. The new requirement stipulates that the dryer booster fan manufacturer determines the exhaust duct length. The requirements also state that the booster fan must be listed and label; and installed in accordance with the manufacturer's installation instructions. Listed booster fans are a viable method of extending the length of the duct.

Section 504.6.5 lists the equivalent lengths of various fittings. The newer fittings were determined based on an analysis using the ASHRAE and SMACNA fitting tables. The equivalent length table assumes that the current requirement in the code is accurate.

The identification is listed in Section 504.6.6. The new requirement is that the label or tag must be located within 6 feet of the exhaust duct connection. The distance is based on the maximum distance the gas valve can be located from a gas dryer. Since this has been used to determine close proximity for a gas valve, it is appropriate to use the same distance for close proximity for a label.

The last section requires an exhaust duct when a dryer connection is present in a building. This is the intent of the current rough-in section.

Reason (Part II): Over the past few code change cycles, the requirements for dryer exhaust venting has been subject to extensive changes. As a result, the requirements are not properly coordinated. The only feasible means of correctly the text is to provide all new language that is coordinated and contains all of the technically correct requirements.

The initial section establishes that the following section apply to dryer exhaust ducts. The specific requirements are found in the remaining section.

Section M1502.3.1 has the requirements for a metal duct as currently found in the code. The change is the requirements for the duct to be 4 inches nominal in diameter. A mm equivalent is not provided since it is a nominal dimension. The current code requires a 4 inch minimum. However, if the duct is increased to 5 inch, the velocity in the exhaust duct drops significantly. The larger duct will not provide the minimum velocity to remove the moisture and any lint that gets into the exhaust duct.

Section M1502.3.2 identifies a new requirement for support. Other than having an arbitrary statement, the support is required every 4 feet. This is a typical spacing for supporting a 4 inch duct with insert joints. The other change is to the proper terminology. Male end is no longer used in the profession. It is either an insert end or in the case of threads an outside thread.

Section M1502.3.3 simply isolates the requirements for a transition duct. The current text is often missed since it is located within a section of exhaust duct length. The UL standard is currently listed in the Residential Code, but not the Mechanical Code.

Section M1502.3.4 provides the three options for maximum exhaust duct length. The first requirement is 25 feet with is the current requirement in the Mechanical Code and Fuel Gas Code. While the Residential Code has a 35 foot limitation, this distance is incorrect. Stack type washers and dryers stipulate a maximum length of 25 feet. Hence, the length cannot be listed as 35 feet.

When the dryer has been specified, the manufacturer's instructions can be used to determine the dryer vent length. This is currently written as an exception; however, it is really an option. The requirements are the same as the current code.

The third viable method is power venting using a dryer booster fan. The new requirement stipulates that the dryer booster fan manufacturer determines the exhaust duct length. The requirements also state that the booster fan must be listed and label; and installed in accordance with the manufacturer's installation instructions. Listed booster fans are a viable method of extending the length of the duct.

Section M1502.3.5 lists the equivalent lengths of various fittings. The newer fittings were determined based on an analysis using the ASHRAE and SMACNA fitting tables. The equivalent length table assumes that the current requirement in the code is accurate.

The identification is listed in Section M1502.3.6. The new requirement is that the label or tag must be located within 6 feet of the exhaust duct connection. The distance is based on the maximum distance the gas valve can be located from a gas dryer. Since this has been used to determine close proximity for a gas valve, it is appropriate to use the same distance for close proximity for a label.

The last section requires an exhaust duct when a dryer connection is present in a building. This is the intent of the current rough-in section.

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

Public Hearing Results

PART I – IMC

Committee Action:

Modify proposal as follows:

Approved as Modified

504.6.4 Duct length. The maximum allowable exhaust duct length shall be determined by one of the methods specified in Sections 504.6.4.1 through 504.6.4.3-2.

~~**504.6.4.3 Booster fan.** The maximum length of the exhaust duct shall be determined by the booster fan manufacturer's installation instructions. Booster fans shall be listed and labeled for use in dryer exhaust duct systems. The booster fan shall be installed in accordance with the manufacturer's installation instructions.~~

(Portions of proposal not shown remain unchanged.)

Committee Reason: This is a needed reorganization that breaks out specific requirements, such as transition ducts and maximum duct length, and adds a new table for duct fitting equivalent length. The modification deletes the booster fan section because the supporting standard is not yet approved.

Assembly Action:

None

PART II – IRC-M

Committee Action:

Disapproved

Committee Reason: The standard for dryer exhaust duct ventilators in proposed Section M1502.3.4.3 is not yet approved. There was no technical justification for reducing the maximum duct length from 35 feet to 25 feet.

Assembly Action:

None

Public Comments

Individual Consideration Agenda

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

Public Comment 3:

Guy Tomberlin, Fairfax County, VA, representing the VA Plumbing and Mechanical Inspectors Association and VA Building and Code Officials Association, requests Approval as Modified by this Public Comment for Part I.

Further modify proposal as follows:

504.6 (IFGC [M] 614.6) Domestic clothes dryer exhaust ducts. Exhaust ducts for domestic clothes dryers shall conform to the requirements of Sections 504.6.1 through ~~504.6.7~~ 504.6.6.

504.6.4 Duct length. The maximum allowable exhaust duct length shall be determined by one of the methods specified in Sections 504.6.4.1 or 504.6.4.2.

504.6.4.1 (IFGC [M] 614.6.4.1) Specified length. The maximum length of the exhaust duct shall be 25 feet (7620mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are utilized, the maximum length of the exhaust duct shall be reduced in accordance with Table 504.6.4.1.

**TABLE 504.6.4.51 (IFGC [M] TABLE 614.6.4.1)
DRYER EXHAUST DUCT FITTING EQUIVALENT LENGTH**

(No change to table contents)

504.6.4.2 (IFGC [M] 614.6.4.2) Manufacturer’s instructions. The maximum length of the exhaust duct shall be determined by the dryer manufacturer’s installation instructions. The code official shall be provided with a copy of the installation instructions for the make and model of the dryer. Where the exhaust duct is to be concealed, the installation instructions shall be provided to the code official prior to the concealment inspection. In the absence of fitting equivalent length calculations from the clothes dryer manufacturer, Table 504.6.4.1 shall be utilized.

~~**504.6.5 (IFGC [M] 614.6.5) Exhaust duct length reduction.** The maximum length of the exhaust duct shall be reduced in accordance with Table 504.6.5.~~

504.6.65 (IFGC [M] 614.6.5) Length identification. Where the exhaust duct is concealed within the building construction, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet of the exhaust duct connection.

504.6.7 6 (IFGC [M] 614.6.6) Exhaust duct required. Where ~~facilities~~ space for a clothes dryer ~~are~~ is provided, an exhaust duct system shall be installed. Where the clothes dryer is not installed at the time of occupancy, the exhaust duct shall be capped at the location of the future dryer.

Exception: Where a listed condensing clothes dryer is installed prior to occupancy of structure.

(Portions of proposal not shown remain unchanged)

Commenter’s Reason: Some of the proposed modification is formatting. For example the table as referenced in the original proposal appears to be a third option for exhaust duct lengths, but the reality is it is nothing more than a tool to be used with the other alternatives, it just can’t be used alone. It has been relocated under the first option with a newly added reference for maximum distances, because it is mainly utilized in conjunction with the standard 25 foot measurement. The modified text includes added direction if a manufacturer fails to provide fitting allowances within their installation instructions, which makes the connection with option number two for using the installation instructions.

Another modification was to replace the term facilities with the term space. This is a clarification if a “space “ is left next to a washer then it could easily be determined it would be for a dryer and exhaust duct must be installed. But the existing term would ask if the area next to a washer is left open is it a “facility?”

The next modification would require that if a future exhaust duct is required to be in place then it must be capped or plugged and identified. The reason for the cap or plug is to better comply with the energy code. Leaving a 4 inch duct in place that terminates to the outdoors and may not get used for several years simply goes against energy code philosophy. Yes a backdraft damper is required but a substantial amount of air can still travel through such a conduit directly to the outdoors. Also this makes it clear to cap off the duct at the inside origination point not the outside termination where someone might not know the cap is in place. And the third improvement for future exhaust duct requirements is if someone wants to utilize a listed condensing dryer, only in order to take advantage of this exception the dryer must be in place for occupancy. This will prevent not installing the duct and just saying that a condensing unit “will be” installed at some point.

Public Comment 3:

Guy Tomberlin, Fairfax County, VA, representing the VA Plumbing and Mechanical Inspectors Association and VA Building and Code Officials Association, requests Approval as Modified by this Public Comment for Part II.

Modify proposal as follows:

M1502.3 Dryer exhaust ducts. Dryer exhaust ducts shall conform to the requirements of Sections M1502.3.1 through M1502.3.76.

M1502.3.4 Duct length. The maximum allowable exhaust duct length shall be determined by one of the methods specified in Sections M1502.3.4.1 ~~through or~~ M1502.3.4.3.2.

M1502.3.4.1 Specified length. The maximum length of the exhaust duct shall be 25 feet (7620mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are utilized, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.3.4.1.

**TABLE M1502.3.4.51
DRYER EXHAUST DUCT FITTING EQUIVALENT LENGTH
(No change to table contents)**

M1502.3.4.2 Manufacturer's instructions. The maximum length of the exhaust duct shall be determined by the dryer manufacturer's installation instructions. The code official shall be provided with a copy of the installation instructions for the make and model of the dryer at the concealment inspection. In the absence of fitting equivalent length calculations from the clothes dryer manufacturer, Table M1502.3.4.1 shall be utilized.

M1502.3.4.3 Booster fan. ~~The maximum length of the exhaust duct shall be determined by the booster fan manufacturer's installation instructions. Booster fans shall be listed and labeled for use in dryer exhaust duct systems. The booster fan shall be installed in accordance with the manufacturer's installation instructions.~~

M1502.3.5 Exhaust duct length reduction. ~~The maximum length of the exhaust duct shall be reduced in accordance with Table M1502.3.5.~~

M1502.3.6 5 Length identification. Where the exhaust duct is concealed within the building construction, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet of the exhaust duct connection.

M1502.3.7 6 Exhaust duct required. Exhaust duct required. ~~Where facilities space for a clothes dryer are is provided, an exhaust duct system shall be installed. Where the clothes dryer is not installed at the time of occupancy, the exhaust duct shall be capped at the location of the future dryer.~~

Exception: Where a listed condensing clothes dryer is installed prior to occupancy of structure.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: Some of the proposed modification is formatting. For example the table as referenced in the original proposal appears to be a third option for exhaust duct lengths, but the reality is it is nothing more than a tool to be used with the other alternatives, it just can't be used alone. It has been relocated under the first option with a newly added reference for maximum distances, because it is mainly utilized in conjunction with the standard 25 foot measurement. The modified text includes added direction if a manufacturer fails to provide fitting allowances within their installation instructions, which makes the connection with option number two for using the installation instructions.

Another modification was to replace the term facilities with the term space. This is a clarification if a "space " is left next to a washer then it could easily be determined it would be for a dryer and exhaust duct must be installed. But the existing term would ask if the area next to a washer is left open is it a "facility?"

The next modification would require that if a future exhaust duct is required to be in place then it must be capped or plugged and identified. The reason for the cap or plug is to better comply with the energy code. Leaving a 4 inch duct in place that terminates to the outdoors and may not get used for several years simply goes against energy code philosophy. Yes a backdraft damper is required but a substantial amount of air can still travel through such a conduit directly to the outdoors. Also this makes it clear to cap off the duct at the inside origination point not the outside termination where someone might not know the cap is in place. And the third improvement for future exhaust duct requirements is if someone wants to utilize a listed condensing dryer, only in order to take advantage of this exception the dryer must be in place for occupancy. This will prevent not installing the duct and just saying that a condensing unit "will be" installed at some point.

Final Hearing Results

**M30-07/08, Part I
M30-07/08, Part II**

**AMPC3
AMPC3**

Code Change No: **M31-07/08**

Original Proposal

Sections: 504.6.1 (IFGC [M] 614.6.1)

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

504.6.1 (IFGC [M] 614.6.1) (Supp) Maximum length. The maximum length of a clothes dryer exhaust duct shall not exceed ~~25 feet (7620 mm)~~ 35 feet (10668 mm) from the dryer location to the outlet terminal. The maximum length of the duct shall be reduced 2 1/2 feet (762 mm) for each 45 degree (0.79 rad) bend and 5 feet (1524 mm) for each 90 degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exception: Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for such dryer are provided to the code official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions. Where exhaust ducts are installed in concealed locations, the developed length of the exhaust duct system shall be indicated by permanent labels or tags installed in an observable location.

Reason: This section is outdated and overly restrictive when compared to the dryers being built today. The distances permitted by the manufacturers far exceed the distances permitted by the code. By permitting the longer lengths, greater flexibility is achieved in laundry-room placement with-in the building. This will also help in eliminating the use of booster fans which could affect drying cycles. Following are some examples of allowable dryer lengths by various manufacturers extracted from their instructions. Also included are some older unit lengths, all of which are at least 15 years old. The committee passed this last cycle overwhelmingly but was narrowly defeated by the membership for the fear that there may be a machine that would not comply with the longer length. These machines are being removed from service as time goes on in favor of more efficient machines. The analogy of (If keeping this dimension artificially low would save the life of just one dryer, wouldn't it be worth it?) The answer would be NO. The IRC committee approved this last cycle and it was not challenged. It is very important the two books read the same.

Maytag dryers:

- 65 feet with 0 elbows
- 54 feet with 1 elbow
- 44 feet with 2 elbows
- 36 feet with 3 elbows
- 28 feet with 4 elbows

Amana/ Speed Queen dryers

- 44 feet with 0 elbows
- 34 feet with 1 elbows
- 26 feet with 2 elbows
- 20 feet with 3 elbows

OLDER MODELS:

- Maytag, 1990**
- 50 feet with 0 elbows
 - 42 feet with 1 elbow
 - 34 feet with 2 elbows
 - 26 feet with 3 elbows

Whirlpool dryers

- 64 feet with 0 elbows
- 54 feet with 1 elbow
- 44 feet with 2 elbows
- 34 feet with 3 elbows
- 27 feet with 4 elbows

Fridgidare / Westinghouse / Tappen / Gibson

- 60 feet with 0 elbows
- 52 feet with 1 elbow
- 44 feet with 2 elbows
- 32 feet with 3 elbows

Whirlpool, 1991

- 58 feet with 0 elbows
- 48 feet with 1 elbow
- 38 feet with 2 elbows
- 29 feet with 3 elbows
- 21 feet with 4 elbows

Kenmore dryers

- 64 feet with 0 elbows
- 54 feet with 1 elbow
- 44 feet with 2 elbows
- 34 feet with 3 elbows
- 27 feet with 4 elbows

Magic Chef/Admiral/Norge

- 45 feet with 0 elbows
- 35 with 1 elbows
- 25 with 2 elbows

Kenmore, 1988

- 22 feet with 3 elbows

General Electric dryers:

- 90 feet with 0 elbows
- 60 feet with 1 elbow
- 45 feet with 2 elbows
- 35 feet with 3 elbows

Camco/Moffat/McClary

- 45 feet with 0 elbows
- 35 feet with 1 elbow
- 25 feet with 2 elbows

Throm

- 55 feet with 0 elbows
- 47 feet with 1 elbow
- 41 feet with 2 elbows
- 30 feet with 3 elbows
- 22 feet with 4 elbows

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

Public Hearing Results

Committee Action:**Disapproved**

Committee Reason: There are many clothes dryers still on the market that are not designed for more than 25 feet of exhaust duct length, including stackable washer/dryer combinations that are prevalent in condominiums. The existing exception already allows for the longer duct lengths when allowed by the manufacturer's instructions.

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:

Charles Gerber, Henrico County, VA, representing the VA Plumbing and Mechanical Inspectors Association and VA Building and Code Officials Association, requests Approval as submitted.

Commenter's Reason: The committee's reason for disapproval was simply that there are existing dryers that are not designed to push air through the vent more than 25 feet. Even though this statement may be true, it is irrelevant because in today's housing market, the location of the dryer is designed to have a minimal impact on habitable space, not to be within any certain distance to an outside wall. The house built in 2008 is roughly two to three times bigger than the house built in 1970. The dryers are therefore much further from a point of discharge than 25 feet. This dryer vent length is a maximum, not minimum. It will not prohibit the use of dryers capable of pushing air only 25 feet as long as the vent does not exceed 25 feet from their discharge.

Please approve this change as submitted to change a distance that is outdated.

Public Comment 2:

Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO), requests Approval as Submitted.

Commenter's Reason: Provided that the 35 foot dimension is published in the IRC, it is of utmost importance that the IMC be consistent with that document. How will we answer the fact that two residences built side by side have two different requirements for dryer duct lengths? The building community will conclude that **we did not do our job**. Testimony in opposition stated that some stackable dryers could not meet the increased length requirement. Although this is true, it is an extremely low percentage that simply isn't justifiable. Ninety-nine percent of the units produced exceed this length by a great deal. Those units that cannot meet this requirement must be installed according to the manufacturer's instructions. The code already stipulates this. There was some testimony regarding stackables in apartments. There is plenty of time in the design stage to choose appliances that work with various duct lengths so that argument doesn't hold up. Booster fans are on there way back but that doesn't mean they are the answer to all of our problems, they cost money and present access issues. Some of the opposition revolved around the fact that less long radius stamped elbows would be sold if this proposal goes to print. This is a fact, but special interests should not be a factor for disapproval. Please consider this proposal, especially if the length remains in the IRC.

Public Comment 3:

John Stelzenmueller, City of Tualatin, OR, representing the Oregon Mechanical Officials Association, requests Approval as Submitted.

Commenter's Reason: The proposal to increase the dryer duct length from 25 feet to 35 feet was approved during the last code cycle because dryer manufacturers allow for such length. This length should be allowed to continue due to the fact that most modern dryer manufacturer's installation instructions indicate the 35-foot exhaust duct length is acceptable. House designers have for years designed their houses with laundry rooms placed in areas of the house that fits the aesthetic design. The 25-foot length was always a problem and required the exhaust ducts to be placed in many questionable locations with terminations that, many times, extended through foundation vents. If the dryer manufacturer doesn't allow the exhaust duct to extend to 35 then the installation instructions will prevail. The manufacturers should be allowed to market their product based on their design.

Final Hearing Results

M31-07/08

AS

Code Change No: **M33-07/08**

Original Proposal

Sections: 504.6.3 (New) [IFGC [M] 614.6.3 (New)]; IRC M1502.7 (New)

Proponent: John Neff, Washington State Building Code Council

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Add new text as follows:

504.6.3 (IFGC [M] 614.6.3) Protection required. Protective shield plates shall be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of all framing members where there is less than 1-1/4 inches (32 mm) between the duct and the finished face of the framing member. The shield plate shall be steel not less than 1/16 inch (1.59 mm) in thickness. The shield plate shall extend to protect the entire width of the duct.

PART II – IRC

Add new text as follows:

M1502.7 Protection required. Protective shield plates shall be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of all framing members where there is less than 1-1/4 inches (32 mm) between the duct and the finished face of the framing member. The shield plate shall be steel not less than 1/16 inch (1.59 mm) in thickness. The shield plate shall extend to protect the entire width of the duct.

Reason: The purpose of this proposal is to ensure that combustible lint will not collect in the dryer duct, producing a risk of fire. If the duct is penetrated by a screw or nail, the “smooth interior finish” is compromised and a collection point is formed. Temperatures in the ducts can get high, especially when the duct is clogged and air flow is reduced.

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

Public Hearing Results

PART I – IMC

Committee Action:

Disapproved

Committee Reason: This proposal goes beyond the protection requirements already in the code in Section 305.5 and would require protection in areas that do not normally require it. The proposal could add to construction costs beyond the value added by the plates.

Assembly Action:

None

PART II – IRC-M

Committee Action:

Disapproved

Committee Reason: Protection from fasteners penetrating walls is already covered in Section M1308.2. This proposal provided no prescriptive requirements to provide any guidance to the user such as maximum fastener lengths.

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 Neff, Washington State Building Code Council, requests Approval as Modified by this Public Comment for Part I.

Modify proposal as follows:

504.6.3 (IFGC [M] 614.6.3) Protection required. Protective shield plates shall be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of all framing members where there is less than 1-1/4 inches (32 mm) between the duct and the finished face of the framing member. ~~The shield plate shall be steel not less than 1/16 inch (1.59 mm) in thickness. The shield plate shall extend to protect the entire width of the duct.~~ Protective shield plates shall be constructed of steel, shall have a thickness of 0.062-inch (1.6 mm) and shall extend a minimum of 2 inches above sole plates and below top plates.

Commenter's Reason: The purpose of this proposal is to ensure that combustible lint will not collect in the dryer duct, producing a risk of fire. If the duct is penetrated by a screw or nail, the "smooth interior finish" is compromised and a collection point is formed. Temperatures in the ducts can get high, especially when the duct is clogged and air flow is reduced. Section 305.5 addresses piping only and not ducts. This language is necessary to extend that same protection to dryer ducts.

Public Comment 2:

John Neff, Washington State Building Code Council, requests Approval as Modified by this Public Comment for Part II.

Modify proposal as follows:

M1502.7 Protection required. Protective shield plates shall be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of all framing members where there is less than 1-1/4 inches (32 mm) between the duct and the finished face of the framing member. ~~The shield plate shall be steel not less than 1/16 inch (1.59 mm) in thickness. The shield plate shall extend to protect the entire width of the duct.~~ Protective shield plates shall be constructed of steel, shall have a thickness of 0.062-inch thick (1.6 mm) and shall extend a minimum of 2 inches above sole plates and below top plates.

Commenter's Reason: The purpose of this proposal is to ensure that combustible lint will not collect in the dryer duct, producing a risk of fire. If the duct is penetrated by a screw or nail, the "smooth interior finish" is compromised and a collection point is formed. Temperatures in the ducts can get high, especially when the duct is clogged and air flow is reduced. Section M1308.2 addresses piping only and not ducts. This language is necessary to extend that same protection to dryer ducts.

Final Hearing Results	
M33-07/08, Part I	AMPC2
M33-07/08, Part II	AMPC2

Code Change No: M34-07/08

Original Proposal

Section 504.8 (New) [IFGC [M] 614.8 (New)]

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association/the Virginia Building and Code Officials Association

Add new text as follows:

504.8 (IFGC [M] 614.8) Common exhaust systems for clothes dryers located in multi-story structures. Where a common multi-story duct system is designed and installed to convey exhaust from multiple clothes dryers, the construction of such system shall be in accordance with all of the following:

1. The shaft in which the duct is installed shall be constructed and fire-resistant-rated as required by the *International Building Code*.
2. Dampers shall be prohibited in the exhaust duct. Penetrations of the shaft and ductwork shall be protected in accordance with Section 607.5.5, Exception 2.

3. Rigid metal ductwork shall be installed within the shaft to convey the exhaust. The ductwork shall be constructed of not less than 24 gage sheet steel and in accordance with SMACNA Duct Construction Standards.
4. The ductwork within the shaft shall be designed and installed without offsets.
5. The exhaust fan motor design shall be in accordance with Section 503.2.
6. The exhaust fan motor shall be located outside of the airstream.
7. The exhaust fan shall run continuously, and shall be connected to a standby power source.
8. The exhaust fan operation shall be monitored in an approved location and shall initiate an audible or visual signal when the fan is not in operation.
9. Makeup air shall be provided for the exhaust system.
10. A cleanout opening shall be located at the base of the shaft to provide access to the duct to allow for cleaning and inspection. The finished opening shall be not less than 12 inches by 12 inches.
11. Screens shall not be installed at the termination.

Reason: This practice has been used successfully across the US for several decades. The use of a common shaft to exhaust multiple clothes dryers and the many variables associated with such construction has never been addressed by the model codes. In addition, there is no industry standard for this application or installation. Due to the incomplete model code guidance/ provisions and lack of any type industry standard lead to the development of this proposal to address the many details that are currently omitted by any recognized code/standard for this type installation.

1. This requirement assures the integrity of the structure is maintained.
2. This is consistent with current IBC Section 716.5.3.
3. There is no way to account for the many different variables that exist when this application is utilized. This restriction helps avoid the velocity reduction at any offsets due to friction. In addition any offsets create the possibility of unwanted lint accumulation.
4. This minimum requirement prohibits the potential for a design that may permit the use of the gypsum enclosure itself to serve as the exhaust passageway.
5. This requirement ensures that the proper fan will be utilized for this application. This will prohibit the use of a typical roof mounted dome type fan that are designed for typical bathroom exhaust.
6. This is a current requirement of 504 for commercial dryers.
7. Again this is the exact requirement from current IBC Section 716.5.3 and IMC Section 607.5.5.2.
8. This configuration relies on the fact that the fan located on the top of the vertical riser is actually working. Otherwise excessive lint accumulation will collect in the bottom of the riser and in any subducts that the lint happens to pass by on its way down.
9. The IMC requires this for exhaust systems the air exhausted must be replaced.
10. The duct cleaning industry has the technology to clean these systems from this one cleanout on the bottom of the riser and through the top where the fan is located.
11. This requirement is consistent with current IMC and the clothes dryer manufacturer's installation recommendations.

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:

504.8 (IFGC [M]614.8) Common exhaust systems for clothes dryers located in multi-story structures. Where a common multi-story duct system is designed and installed to convey exhaust from multiple clothes dryers, the construction of such system shall be in accordance with all of the following:

1. The shaft in which the duct is installed shall be constructed and fire resistant rated as required by the *International Building Code*.
2. Dampers shall be prohibited in the exhaust duct. Penetrations of the shaft and ductwork shall be protected in accordance with Section 607.5.5, Exception 2.
3. Rigid metal ductwork shall be installed within the shaft to convey the exhaust. The ductwork shall be constructed of ~~not less than 24 gage sheet steel~~ having a minimum thickness of (0.0187-inches) (0.4712 mm) (No. 26 gage) and in accordance with SMACNA Duct Construction Standards.
4. The ductwork within the shaft shall be designed and installed without offsets.
5. The exhaust fan motor design shall be in accordance with Section 503.2.
6. The exhaust fan motor shall be located outside of the airstream.
7. The exhaust fan shall run continuously, and shall be connected to a standby power source.
8. The exhaust fan operation shall be monitored in an approved location and shall initiate an audible or visual signal when the fan is not in operation.
9. Makeup air shall be provided for the exhaust system.
10. A cleanout opening shall be located at the base of the shaft to provide access to the duct to allow for cleaning and inspection. The finished opening shall be not less than 12 inches by 12 inches.
11. Screens shall not be installed at the termination.

Committee Reason: Common exhaust ducts for clothes dryers in multi-story buildings are frequently used and this code change adds some prescriptive requirements to allow the code official to ensure proper installation. The modification changes the gage of the duct material from 24 to 26 for consistency with the IBC fire safety requirements.

Assembly Action:

None

Final Hearing Results

M34-07/08

AM

Code Change No: **M36-07/08**

Original Proposal

Section: 506.3.2.1

Proponent: Doug Patterson, Sheet Metal and Air Conditioning Contractors of Western Washington, representing local contractors

Revise as follows:

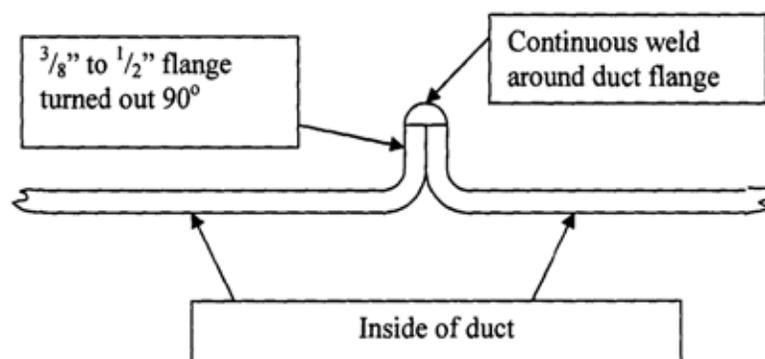
506.3.2.1 Duct joint types. Duct joints shall be butt joints, welded flange joints with a maximum flange depth of 0.5 inch (12.7 mm) or overlapping duct joints of either the telescoping or bell type. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to the intended collection point. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed 0.25 inch (6 mm). The length of overlap for overlapping duct joints shall not exceed 2 inches (51 mm).

Reason: See the sketch below for a clarification of the proposed joint.

The purpose of the addition of the welded mini-flange joint to this section is to clarify the code and remove any interpretations by code officials that this joint is not allowed by the current code.

This joint must be allowed on rectangular exhaust ducts serving class 1 kitchen hoods because it is faster, easier to fabricate, easier to make liquid tight, more professional looking, and does not cause warping of the duct surface during the welding process which will form puddles in the bottom of the duct causing grease accumulation.

Contractors in the Pacific North West used this welded mini-flange joint successfully on Type 1 kitchen hood exhaust duct for years under the Uniform Mechanical Code. When Washington State transitioned from the 1997 Uniform Mechanical Code to the 2003 International Mechanical Code the welded mini-flange joint was not specifically listed as an acceptable connecting method for type 1 kitchen hood exhaust ducts. When Washington State adopted the 2006 IMC, the same dilemma existed. Currently, in some jurisdictions, a contractor must apply to the building official and ask for permission to use this welded mini-flange joint under IMC section 105.2 Alternative materials, methods, equipment and appliances. This is a time consuming process with no guarantee of acceptance.

**Bibliography:**

1997 Uniform Mechanical Code Section 507.3.2 Joints and seams of grease ducts. States, "Joints and seams shall be made with a continuous liquid-tight welded or braze made on the external surface of the duct system."

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change adds another welding method for forming duct joints. This method is currently widely used in the industry and it is easier to fabricate and make liquid tight.

Assembly Action:

None

Final Hearing Results

M36-07/08

AS

Code Change No: M37-07/08

Original Proposal

Section: 506.3.2.5

Proponent: Eli P. Howard, III, representing SMACNA

Revise as follows:

506.3.2.5 (Supp) Grease duct test. Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed in the presence of the code official. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the duct work from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test. A light test or an approved equivalent test method shall be performed to determine that all welded and brazed joints are liquid tight.

A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of duct work to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. A test shall be performed for the entire duct system, including the hood-to-duct connection. The duct work shall be permitted to be tested in sections, provided that every joint is tested.

Exception: Subject to the approval of the code official, the leakage test need not be performed in the presence of the code official provided that an approved agency submits a report of the results of the test.

Reason: Although we support the concept of the grease duct test requirement, the current language allowing “an approved equivalent test method” is at best ambiguous and has/will lead to non-uniform enforcement as each local code official may and have asked for various test methods (including, but not limited to: smoke tests, air pressure tests, high-pressure water tests, helium test, etc.) other than the light test, which has lead to an increased cost of the installation and test of grease duct systems.

SMACNA believes that having a test method (light test) as the approved method in the IMC will provide the needed requirement for enforcement of grease duct inspections and that the “or an approved equivalent test method” should be stricken to ensure a uniform inspection process.

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:

506.3.2.5 (Supp) Grease duct test. Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed in the presence of the code official. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the duct work from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test. A light test shall be performed to determine that all welded and brazed joints are liquid tight.

A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of duct work to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. A test shall be performed for the entire duct system, including the hood-to-duct connection. The duct work shall be permitted to be tested in sections, provided that every joint is tested. For listed factory-built grease ducts, this test shall be limited to duct joints assembled in the field and shall exclude factory welds.

Exception: Subject to the approval of the code official, the leakage test need not be performed in the presence of the code official provided that an approved agency submits a report of the results of the test.

Committee Reason: The deleted text was being used in the field to require various test methods other than the light test that the contractor was expecting. This change will provide uniform inspection practice. The modification allows factory-made welds to be exempted from the field tests.

Assembly Action:

None

Final Hearing Results

M37-07/08

AM

Code Change No: M38-07/08

Original Proposal

Section: 506.3.2.5

Proponent: Richard Grace, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association

Revise as follows:

506.3.2.5 (Supp) Grease duct test. Prior to the use or concealment of any portion of a grease duct system, a leakage test shall be performed ~~in the presence of the code official~~. Ducts shall be considered to be concealed where installed in shafts or covered by coatings or wraps that prevent the duct work from being visually inspected on all sides. The permit holder shall be responsible to provide the necessary equipment and perform the grease duct leakage test. A light test or an approved equivalent test method shall be performed to determine that all welded and brazed joints are liquid tight.

A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of duct work to be tested. The lamp shall be open so as to emit light equally in all directions perpendicular to the duct walls. A test shall be performed for the entire duct system, including the hood-to-duct connection. The duct work shall be permitted to be tested in sections, provided that every joint is tested.

~~**Exception:** Subject to the approval of the code official, the leakage test need not be performed in the presence of the code official provided that an approved agency submits a report of the results of the test.~~

Reason: This committee modified action simply added frivolous language to the code. This requirement is already mandated in sections 104.4, 105.3, 107.1 and 107.1.1. This section does not need additional language to clarify what is already required in other sections of this code. If this were necessary, we need to insert this same language in sections 301.5, 507.16, multiple areas in [F] 513, 1004.2, 1105.4, 1108.1, and probably a few other sections not mentioned here.

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 is unnecessary language that is adequately addressed in other sections of the code such as Sections 104.4 and 107.1.1.

Assembly Action:

None

Final Hearing Results

M38-07/08

AS

Code Change No: **M39-07/08**

Original Proposal

Sections: 506.3.6, 506.3.10, 506.3.10.1 (New), 506.3.10.2 (New), 506.3.10.3 (New), 506.3.10.4 (New)

Proponent: Tony Crimi, A.C. Consulting Solutions, inc., representing the International Firestop Council

1. Revise as follows:

506.3.6 506.3.9 (Supp) Grease duct clearances. Grease duct systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457 mm), and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches (76 mm).

Exception: Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978 and listed and labeled exhaust equipment installed in accordance with Section 304.1.

2. Delete and substitute as follows:

506.3.10 (Supp) Grease duct enclosure. A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. Ducts shall be enclosed in accordance with the *International Building Code* requirements for shaft construction. The duct enclosure shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings. Clearance from the duct to the interior surface of enclosures of combustible construction shall be not less than 18 inches (457 mm). Clearance from the duct to the interior surface of enclosures of noncombustible construction or gypsum wall board attached to noncombustible structures shall be not less than 6 inches (152 mm). The duct enclosure shall serve a single grease exhaust duct system and shall not contain any other ducts, piping, wiring or systems.

Exceptions:

1. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system tested and listed in accordance with ASTM E 814 or UL 1479 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. The surface of the duct shall be continuously covered on all sides from the point at which the duct originates to the outlet terminal. The duct shall be covered with a listed and labeled material, system, product, or method of construction specifically evaluated for such purpose, in accordance with ASTM E2336. Such system shall be installed in accordance with the listing and the manufacturer's installation instructions. Exposed ductwrap systems shall be protected where subject to physical damage.
2. The shaft enclosure provisions of this section shall not be required where a duct penetration is protected with a through-penetration firestop system tested in accordance with ASTM E 814 or UL 1479, having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated and where a listed and labeled prefabricated duct system, listed for such purposes in accordance with UL 2221, is utilized. Such system shall be installed in accordance with the listing and the manufacturer's installation instructions.
3. A duct enclosure shall not be required for a grease duct that penetrates only a nonfire-resistance-rated roof/coiling assembly.

506.3.10 Grease Duct Enclosures. A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. Duct enclosures shall be either field-applied or prefabricated. Duct enclosures shall be as prescribed by Section 506.3.10.1, 506.3.10.2 or 506.3.10.3.

Exception: A duct enclosure shall not be required for a grease duct that penetrates only a non fire-resistance-rated roof/ceiling assembly.

3. Add new text as follows:

506.3.10.1 Shaft enclosure. Commercial kitchen grease ducts constructed in accordance with Section 506.3.1 shall be permitted to be enclosed in accordance with the *International Building Code* requirements for shaft construction. Such grease duct systems and exhaust equipment shall have a clearance to combustible construction of not less than 18 inches (457 mm), and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 6 inches (76 mm). Duct enclosures shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings.

506.3.10.2 Field applied enclosure. Field-applied grease duct enclosure assemblies shall consist of commercial kitchen grease ducts constructed in accordance with Section 506.3.1 enclosed by a field-applied grease duct enclosure that is a listed and labeled material, system, product, or method of construction specifically evaluated for such purpose in accordance with ASTM E2336. The surface of the duct shall be continuously covered on all sides from the point at which the duct originates to the outlet terminal. Duct penetrations shall be protected with a through-penetration firestop system classified in accordance with ASTM E 814 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. Such systems shall be installed in accordance with the listing and the manufacturer's installation instructions. Exposed duct wrap systems shall be protected where subject to physical damage.

506.3.10.3 Prefabricated enclosure. Prefabricated grease duct enclosure assemblies shall consist of listed commercial kitchen grease ducts constructed in accordance with Section 506.3.1. Such grease ducts shall be enclosed within a prefabricated grease duct enclosure assembly that is listed and labeled and specifically evaluated for such purpose in accordance with UL2221. Duct penetrations shall be protected with a through-penetration firestop system classified in accordance with ASTM E 814 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. Such systems shall be installed in accordance with the listing and the manufacturer's installation instructions.

Reason: The purpose of the proposed code change is to re-organize Section 506.3.10 to reflect changes made in the 2006 IMC cycle, and to consolidate and simplify the Grease duct clearances provisions with the grease duct enclosure provisions.

During the last several cycles, there has been a great deal of discussion regarding the appropriate reference to test methods for fire resistive grease duct enclosure systems. Both ASTM E 2336 and UL 2221 were added to the exceptions to clause 506.3.10. However, there continue to be confusion regarding the requirements relating to clearances versus the requirements regarding grease duct enclosure materials. This proposal seeks to consolidate and clarify the different approaches.

The purpose of submitting the proposed change is identified above. There is confusion in the application of the IMC requirements by designers and code users. Part of this confusion has been the fact that the grease duct clearance requirements were located in 506.3.6, while the grease duct enclosure provisions, which also talk about clearances from the duct to the interior surfaces of enclosures of combustible or non-combustible construction, are located in 506.3.10.

In addition, the reorganization separates the three options for construction of the grease duct enclosures into separate, stand-alone articles. Both ASTM E 2336 and UL 2221 were added to the exceptions to clause 506.3.10. In reality, the existing base requirement to use the shaft enclosure provisions should be treated as an independent option for construction of the grease duct enclosure rather than the base requirement, given that test methods now exist for testing fire-resistive grease duct enclosure systems specifically.

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:

506.3.6.9 (Supp) Grease duct clearances. Grease duct systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457 mm), and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches (76 mm).

Exception: Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978 and listed and labeled exhaust equipment installed in accordance with Section 304.1.

506.3.10 Grease Duct Enclosures. A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. The duct enclosure shall serve a single grease duct and shall not contain other ducts, piping or wiring systems. Duct enclosures shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings. Duct enclosures shall be either field-applied or prefabricated. Duct enclosures shall be as prescribed by Sections 506.3.10.1, 506.3.10.2 or 506.3.10.3.

~~**Exception:** A duct enclosure shall not be required for a grease duct that penetrates only a non fire-resistance-rated roof/ceiling assembly.~~

506.3.10.1 Shaft enclosure. Commercial kitchen grease ducts constructed in accordance with Section 506.3.1 shall be permitted to be enclosed in accordance with the *International Building Code* requirements for shaft construction. Such grease duct systems and exhaust equipment shall have a clearance to combustible construction of not less than 18 inches (457 mm), and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 6 inches (76 mm).

~~**506.3.10.2 Field applied grease duct enclosure.** Field applied grease duct enclosure assemblies shall consist of Commercial kitchen grease ducts constructed in accordance with Section 506.3.1 shall be enclosed by a field-applied grease duct enclosure that is a listed and labeled material, system, product, or method of construction specifically evaluated for such purpose in accordance with ASTM E2336. The surface of the duct shall be continuously covered on all sides from the point at which the duct originates to the outlet terminal. Duct penetrations shall be protected with a through-penetration firestop system classified in accordance with ASTM E 814 or UL 1479 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. Such systems shall be installed in accordance with the listing and the manufacturer's installation instructions. Exposed duct wrap systems shall be protected where subject to physical damage.~~

506.3.10.3 Prefabricated grease duct enclosure assemblies. Prefabricated grease duct enclosure assemblies shall consist of listed commercial kitchen grease ducts constructed in accordance with Section 506.3.1. Such grease ducts shall be enclosed within a prefabricated grease duct enclosure assembly that is listed and labeled and specifically evaluated for such purpose in accordance with UL 2221. Duct penetrations shall be protected with a through-penetration firestop system classified in accordance with ASTM E 814 or UL 1479 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. Such systems shall be installed in accordance with the listing and the manufacturer's installation instructions.

506.3.10.4 Duct enclosure not required. A duct enclosure shall not be required for a grease duct that penetrates only a non fire-resistance-rated roof/ceiling assembly.

Committee Reason: This proposal appropriately reorganizes Section 506.3.10 to consolidate and clarify the various methods of enclosing grease ducts. Section 506.3.10 will now direct the user to one of three methods in the subsequent sections which each provide technical guidance for the particular method. The modification reverts Section 506.3.9 back to 506.3.6, adds back some language in Section 506.3.10 that was in the existing code language and inadvertently omitted, deletes the exception to Section 506.3.10 and moves it to a new Section 506.3.10.4, deletes redundant language in the first line of Section 506.3.10.2 and adds "shall be" for grammatical correctness and adds "or UL 1479" to follow ASTM E 814 which was in existing code language.

Assembly Action:

Disapproved

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 2:

Bob Eugene, Underwriters Laboratories, Inc., requests Approval as Modified by this Public Comment.

Further modify proposal as follows:

506.3.6 (Supp) Grease duct clearances. Where enclosures are not required, grease duct systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457 mm), and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches (76 mm).

Exception: Clearances for fFactory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978 and listed and labeled exhaust equipment installed in accordance with Section 304.1 shall comply with their listings.

~~**506.3.10 Grease Duct Enclosures.** A grease duct serving a Type I hood that penetrates a ceiling, wall or floor shall be enclosed from the point of penetration to the outlet terminal. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. The duct enclosure shall serve a single grease duct and shall not contain other ducts, piping or wiring systems. Duct enclosures shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings. Duct enclosures shall be either field-applied or prefabricated factory-built. Duct enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Duct enclosures shall be as prescribed by Sections 506.3.10.1, 506.3.10.2 or 506.3.10.3.~~

~~**506.3.10.3 Prefabricated Factory-built grease duct enclosure assemblies.** Prefabricated grease duct enclosure assemblies shall consist of listed commercial kitchen Factory-built grease ducts assemblies incorporating integral enclosure materials shall be constructed in accordance with Section 506.3.1. Such grease ducts shall be enclosed within a prefabricated grease duct enclosure assembly that is listed and labeled and specifically evaluated for such purpose for use as commercial kitchen grease duct assemblies in accordance with UL 2221. Duct penetrations shall be~~

protected with a through-penetration firestop system classified in accordance with ASTM E 814 or UL 1479 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. Such ~~systems-assemblies~~ shall be installed in accordance with the listing and the manufacturer's installation instructions.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: The proposed language above is intended to clarify errors that were inadvertently incorporated into this proposal.

The 2006 *International Mechanical Code* (IMC) implies a prefabricated grease duct enclosure assembly should be protected with a listed and labeled prefabricated system evaluated to UL 2221. This wording is incorrect. Factory-built commercial kitchen grease ducts which are listed to UL 2221 incorporate integral enclosure materials and as such do not require additional field protection. This was clarified in the 2007 Supplement. Unfortunately wording similar to the 2006 IMC was inadvertently incorporated into M39-07/08. As such, this public comment proposes to reinstate language similar to that contained in the 2007 Supplement for these products. Slight editorial changes were necessary adapt the 2007 Supplement language into the format of M39-07/08, but the technical meaning is identical.

Final Hearing Results

M39-07/08

AMPC2

Code Change No: M40-07/08

Original Proposal

Section: 506.3.6

Proponent: Tony Crimi, A.C. Consulting Solutions, inc., representing the International Firestop Council

Revise as follows:

506.3.6 (Supp) Grease duct clearances. Grease duct systems and exhaust equipment serving a Type I hood shall have a clearance to combustible construction of not less than 18 inches (457 mm), and shall have a clearance to noncombustible construction and gypsum wallboard attached to noncombustible structures of not less than 3 inches (76 mm).

Exceptions:

1. Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978. ~~and~~
2. Listed and labeled exhaust equipment installed in accordance with Section 304.1.
3. Where commercial kitchen grease ducts are continuously covered on all sides with a listed and labeled field-applied grease duct enclosure material, system, product, or method of construction specifically evaluated for such purpose in accordance with ASTM E2336, the required clearance shall be in accordance with the listing of such material, system, product or method.

Reason: The purpose of the proposed code change is to add an additional exception to the grease duct clearance requirements in 506.3.6 and re-organize the exceptions.

There continues to be confusion regarding the requirements relating to clearances versus the requirements regarding grease duct enclosure materials. This proposal seeks to clarify that Listed and Labeled systems (permitted by 506.3.10), which are also tested and approved for their clearance to combustibles, can be installed in accordance with their Listings.

The purpose of submitting the proposed change is identified above. There is confusion in the application of the IMC requirements by manufacturers, designers and code users. Part of this confusion has been the fact that the grease duct clearance requirements are located in 506.3.6, while the grease duct enclosure provisions, which also talk about clearances from the duct to the interior surfaces of enclosures of combustible or non-combustible construction, are located in 506.3.10.

All manufacturers of field-applied grease duct enclosure systems have as part of their listings for each systems, an allowable for clearance from the outside of the enclosure system to adjacent combustibles. They achieve this based on the type, quantity, and method of installation of the protective enclosure materials, and test them in accordance with the ASTM E2336 Standard recognized in 506.3.10. As an example, some field-applied grease duct enclosure system manufacturers have listings for Zero Clearance or other clearance.

The materials are routinely used as an option for reducing clearances, particularly in cases where there is a limited amount of space available for other means of protection. Another typical use is in a 1 story restaurant where no rated wall/ceiling is being penetrated, but field-applied protection is installed because of the proximity of the grease duct to adjacent combustible construction.

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 breaks the existing exception into two exceptions and adds a third exception to clarify that field-applied grease duct enclosure systems allowed by Section 506.3.10 can be installed with the clearances allowed by their listing.

Assembly Action:

None

Final Hearing Results

M40-07/08

AS

Code Change No: M41-07/08

Original Proposal

Section: 506.3.8.1

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

506.3.8.1 Personnel entry. Where ductwork is large enough to allow entry of personnel, not less than one approved or listed opening having dimensions not less than ~~20~~ 22 inches by 20 inches (~~508~~ 519 mm by 508 mm) shall be provided in the horizontal sections, and in the top of vertical risers. Where such entry is provided, the duct and its supports shall be capable of supporting the additional load and the cleanouts specified in Section 506.3.8 are not required.

Reason: This is consistent with the logic throughout the I-codes that 22-inches is appropriate for shoulder width as it relates to entering or leaving a given space. An example is a shower door, it's required to be 22-inches wide. Also, multiples of 22 can be associated with corridor widths.

Cost Impact: Slight cost impact.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The standard width for openings throughout the code is 22 inches which is based on average shoulder width. The opening width in this section should be the same.

Assembly Action:

None

Final Hearing Results

M41-07/08

AS

Code Change No: **M42-07/08**

Original Proposal

Section 506.3.8.1 (New)

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Add new text as follows:

506.3.8.1 Cleanouts serving in-line fans. A cleanout shall be provided for both the inlet side and outlet side of an in-line fan except where a duct does not connect to the fan. Such cleanouts shall be located within 3 feet (914 mm) of the fan duct connections.

(Renumber subsequent sections)

Reason: Currently the code does not address cleanouts as it relates to in-line fans. This is minimal criteria based on national standards. (NFPA-96)

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change adds cleanout location requirements for in-line fans that are consistent with those in NFPA 96 and are necessary for the safety of maintenance personnel and inspectors.

Assembly Action:

None

Final Hearing Results

M42-07/08

AS

Code Change No: **M43-07/08**

Original Proposal

Section: 506.3.12.3

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

506.3.12.3 (Supp) Termination location. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from parts of the same or contiguous buildings, adjacent buildings and adjacent property lines and shall be located not less than 10 feet (3048 mm) above the adjoining grade level. Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from or not less than ~~2 3~~ 3 feet (914 mm) above air intake openings into any building. ~~Exhaust outlet terminations shall not be directed towards nor impinge on any structure.~~

Exception: Exhaust outlets shall terminate not less than 5 feet (1524 mm) from parts of the same or contiguous building, an adjacent building, adjacent property line and air intake openings into a building where air from the exhaust outlet discharges away from such locations.

Reason: 3-feet is consistent with NFPA-96 Section 7.8.2 and needs to be maintained, especially when the lower velocity of 500 FPM is taken into consideration opposed to the 1500 FPM minimum velocity from before. The ability to pull contaminants into the building will be greater. If a gas vent must be 3-feet above openings, then it only makes sense that a grease discharge, with particulate matter potentially heavier than air, also be located 3-feet above openings. Sections 506, 507, and 508 are based on national standards and it would be inappropriate to arbitrarily lessen the standard. The 3-foot dimension is also consistent with other code sections such as IMC Section 918.6; IRC-G2427.7; G2427.8 #1; G2442.5 #1; and IFGC Sections 503.6.7 and 618.5. There is a long history of the 3-foot dimension. The last sentence is redundant language. 506.5.2 already covers impingement and “ termination shall not discharge towards any structure” is not qualified by a number. If left in, a fan discharge could not be positioned toward a building 50 feet away.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Changing the location of the exhaust outlet to 3 feet will make the code consistent with NFPA 96 and other IMC, IFGC and IRC code sections. The last sentence was deleted because it is redundant with Section 506.5.2.

Assembly Action:

None

Final Hearing Results

M43-07/08

AS

Code Change No: M44-07/08

Original Proposal

Sections: 506.4.1, 506.4.3

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

1. Delete without substitution:

~~**506.4.1 Type II exhaust outlets.** Exhaust outlets for ducts serving Type II hoods shall comply with Sections 401.4 and 401.4.2. Such outlets shall be protected against local weather conditions and shall meet the provisions for exterior wall opening protectives in accordance with the *International Building Code*.~~

2. Revise as follows:

506.4.32 (Supp) Type II terminations. Exhaust outlets serving Type II hoods shall terminate in accordance with the hood manufacturer’s installation instructions and shall comply with all of the following:

1. Exhaust outlets shall terminate not less than 3 feet (914 mm) in any direction from openings into the building.
2. Outlets shall terminate not less than 10 feet (3048 mm) from property lines or buildings on the same lot.
3. Outlets shall terminate not less than 10 feet (3048 mm) above grade.
4. Outlets shall terminate not less than 30 inches (762 mm) above the roof surface.
5. Outlets shall terminate not less than 30 inches (762 mm) from exterior vertical walls.
6. Outlets shall be protected against local weather conditions.
7. Outlets shall not be directed onto walkways.
8. Outlets shall not create a nuisance.
9. Outlets shall meet the provisions for exterior wall opening protectives in accordance with the *International Building Code*.

Reason: Everything that was addressed in 506.4.1 has been addressed in the new 506.4.2 thereby creating one single section addressing all aspects of type II terminations. There is no need to reference a section that is within the body of the main section.

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:

506.4.2 (Supp) Type II terminations. Exhaust outlets serving Type II hoods shall terminate in accordance with the hood manufacturer's installation instructions and shall comply with all of the following:

1. Exhaust outlets shall terminate not less than 3 feet (914 mm) in any direction from openings into the building.
2. Outlets shall terminate not less than 10 feet (3048 mm) from property lines or buildings on the same lot.
3. Outlets shall terminate not less than 10 feet (3048 mm) above grade.
4. Outlets shall terminate not less than 30 inches (762 mm) above the roof surface.
5. Outlets shall terminate not less than 30 inches (762 mm) from exterior vertical walls.
6. Outlets shall be protected against local weather conditions.
7. Outlets shall not be directed onto walkways.
- ~~8. Outlets shall not create a nuisance.~~
9. Outlets shall meet the provisions for exterior wall opening protectives in accordance with the *International Building Code*.

Committee Reason: Section 506.4.1 was deleted and the termination requirements that it referenced in Section 401.4 are added to the list of exhaust outlet termination requirements in Section 506.4.3 in order to have all requirements in one location. The modification deleted the 8th item because the term "nuisance" is too subjective.

Assembly Action:

None

Final Hearing Results

M44-07/08

AM

Code Change No: **M45-07/08**

Original Proposal

Section 506.4.3

Proponent: Derek Schrock, Halton Company, representing the Commercial Kitchen Ventilation Technical Interest Group

Revise as follows:

506.4.3 (Supp) Type II terminations. Exhaust outlets serving Type II hoods shall terminate in accordance with the hood manufacturer's installation instructions and shall comply with all of the following:

1. Exhaust outlets shall terminate not less than 3 feet (914 mm) in any direction from openings into the building.
2. Outlets shall terminate not less than 10 feet (3048 mm) from property lines.
3. Outlets shall terminate not less than 10 feet (3048 mm) above grade.
4. Outlets that terminate above a roof shall terminate not less than 30 inches (762 mm) above the roof surface.
5. Outlets shall terminate not less than 30 inches (762 mm) from exterior vertical walls

Reason: The purpose of this change is to clarify the code for use with multiple-story buildings where sidewall exhaust is commonly used. The code requirement for a clearance above the roof and a clearance from an exterior wall are not achievable in these cases.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Sidewall exhaust outlets are commonly used in multi-story buildings. The language in current Item 4 could be interpreted to not allow such sidewall outlets.

Assembly Action:

None

Final Hearing Results

M45-07/08

AS

Code Change No: M46-07/08

Original Proposal

Section 507.1

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association/the Virginia Building and Code Officials Association

Revise as follows:

507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues. Commercial kitchen exhaust hood systems shall operate during the cooking operation.

Exceptions:

1. Factory-built commercial exhaust hoods which are tested in accordance with UL 710, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14 and 507.15.
2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL 710B, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15. Spaces in which such systems are located shall be considered to be kitchens and shall be ventilated in accordance with Table 403.3. For the purpose of determining the floor area required to be ventilated, each individual appliance shall be considered as occupying not less than 100 square feet.
3. Net exhaust volumes for hoods shall be permitted to be reduced during no-load cooking conditions, where engineered or listed multispeed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section.

Reason: Recirculating systems are becoming increasingly more popular. The current code text fails to recognize that several of these systems can be located in one small area with out any ventilation what so ever. While they are tested to prevent particulate matter from being re-distributed into the space they do not completely remove heat or odors. This proposal is an attempt to address any application where recirculating systems are installed. This may be an application where a small restaurant has two, three, or more recirculating appliances installed to service the entire cooking operation or the single appliance that happens to be installed in an area to supplement the main cooking needs.

The 100 square feet measurement is a minimum that would require at least 70 cfm of exhaust for the space each appliance is installed (not even the exhaust rate required for a single water closet). This will assure that some type minimum exhaust is available to these spaces.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Because recirculating systems do not exhaust heat and moisture from the kitchen, ventilation in accordance with Table 403.3 is needed to remove the heat and moisture.

Assembly Action:

None

Final Hearing Results

M46-07/08

AS

Code Change No: M47-07/08

Original Proposal

Section: 507.1

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association/the Virginia Building and Code Officials Association

Revise as follows:

507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues. Commercial kitchen exhaust hood systems shall operate during the cooking operation.

Exceptions:

1. Factory-built commercial exhaust hoods which are tested in accordance with UL 710, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14 and 507.15.
2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL 710B, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15.
3. Net exhaust volumes for hoods shall be permitted to be reduced during no-load cooking conditions, where engineered or listed multispeed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section. Reduced volumes shall not be below that required to maintain capture and removal of effluents from the idle cooking appliances that are operating in a standby mode.

Reason: Current text appears to allow the fan to stop operating just because cooking may not be occurring. This proposal clearly requires what the original intent meant to say. It is okay to reduce fan speeds, just not completely turn off when cooking appliances are in operation.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change clarifies that it is acceptable to reduce fan speeds during no-load conditions, but, if cooking appliances are operating in standby mode, the fans cannot be completely shut off.

Assembly Action:

None

Final Hearing Results

M47-07/08

AS

Code Change No: M49-07/08

Original Proposal

Section: 507.1

Proponent: Jim Weiler, Pueblo County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hoods shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues. Commercial kitchen exhaust hood systems shall operate during the cooking operation.

Exceptions:

1. Factory-built commercial exhaust hoods which are tested in accordance with UL 710, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14 and 507.15.
2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL 710B, listed, labeled and installed in accordance with Section 304.1 shall not be required to comply with Sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14 and 507.15.
3. Net exhaust volumes for hoods shall be permitted to be reduced during ~~no-load~~ part-load cooking conditions, where engineered or listed multispeed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section.

Reason: No load means all appliances and equipment are off. Why are reduced volumes needed when there is no load? 507.2.1 requires that the hood must operate when cooking operations occur which may be only one appliance. That would be considered "part" load. It would be appropriate to want a lower flow under that condition. Reduced net volumes are not needed when the equipment is not being used or otherwise in a "no"-load condition.

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 "part-load" is more appropriate because "no-load" seems to indicate there is not any operation of the cooking equipment at all.

Assembly Action:

None

Final Hearing Results

M49-07/08

AS

Code Change No: **M50-07/08**

Original Proposal

Sections: 507.2.1, 507.2.2

Proponent: Antwone J. Ross, Chesterfield County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association

Revise as follows:

507.2.1 Type I hoods. Type I hoods shall be installed where cooking appliances produce grease or smoke, ~~such as occurs with griddles, fryers, broilers, ovens, ranges and wok ranges.~~ Type I hoods shall be installed over medium-duty, heavy-duty, and extra-heavy-duty cooking appliances.

507.2.2 (Supp) Type II hoods. Type II hoods shall be installed where cooking or dishwashing appliances produce heat, steam, or products of combustion and do not produce grease or smoke, ~~such as steamers, kettles, pasta cookers and dishwashing machines.~~ Type II hoods shall be installed over light-duty appliances.

Exceptions:

1. Under-counter-type commercial dishwashing machines.
2. A Type II hood is not required for dishwashers and potwashers that are provided with heat and water vapor exhaust systems that are supplied by the appliance manufacturer and are installed in accordance with the manufacturer's instructions.
3. A single light-duty electric convection, bread, retherm or microwave oven. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.
4. A Type II hood is not required for the following electrically heated appliances: toasters, steam tables, popcorn poppers, hot dog cookers, coffee makers, rice cookers, egg cookers, holding/warming ovens. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.
5. Any appliance having an engineered exhaust system incorporated as part of the appliance's design.

Reason: The purpose of the proposed change is to clarify the code requirements and allow more consistent enforcement.

The code does not explicitly state that medium duty, heavy-duty, and extra-heavy-duty appliances are required to be under type I hoods. This requirement is only implied by section 507.13. Section 507.13 is used to determine exhaust rates and is not the appropriate section to determine the type of hood required. Section 507.2 is the section that provides guidance on hood type requirements. Current code requirements for a type I hood are based on whether the cooking appliance generates grease or smoke and only includes a few examples. It is common practice for the AHJ to evaluate some cooking appliances on a case-by-case basis taking into consideration type and frequency of cooking as it relates to grease and smoke production. Based on this line of reasoning, it is not uncommon for the AHJ to determine a medium-duty appliance (such as conveyor style pizza ovens or rotisserie ovens) does not produce significant amounts of grease or smoke and therefore belongs under a type II hood. When this occurs the code does not offer any guidance on the minimum required exhaust rate. Section 507.13 only specifies exhaust rates for medium-duty appliances under type I hoods or light duty appliances under type II hoods. There is no category for medium-duty appliances under type II hoods. In summary, since there is no guidance for medium-duty appliances under type II hoods, one can only assume the code does not intend to allow this situation. The code needs to be changed to clearly required type I hoods for anything other than a light-duty appliance. Proposed change to Section 507.2.2 is to keep the format consistent with 507.2.1.

Cost Impact: The code change proposal will increase the cost of construction for those jurisdictions that may have allowed the installation of medium duty appliances under type II hoods.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change clarifies which appliances require Type I or Type II hoods. Previously, the user could only infer from Section 507.13 that medium-duty, heavy-duty and extra-heavy-duty cooking appliances required Type I hoods and light-duty appliances required Type II hoods.

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:

507.2.1 Type I Hoods. Type I hoods shall be installed where cooking appliances produce grease or smoke. Type I hoods shall be installed over medium-duty, heavy-duty, and extra-heavy-duty cooking appliances. Type I hoods shall be installed over light-duty cooking appliances that produce grease or smoke.

507.2.2. (Supp) Type II hoods. Type II hoods shall be installed where cooking or dishwashing appliances produce heat, steam, or products of combustion and do not produce grease or smoke. Type II hoods shall be installed over light-duty appliances that do not produce grease or smoke.

Exceptions:

1. Under-counter-type commercial dishwashing machines.
2. A Type II hood is not required for dishwashers and potwashers that are provided with heat and water vapor exhaust systems that are supplied by the appliance manufacturer and are installed in accordance with the manufacturer's instructions.
3. *A single light-duty electric convection, bread, retherm or microwave oven. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.*
4. *A Type II hood is not required for the following electrically heated appliances: toasters, steam tables, popcorn poppers, hot dog cookers, coffee makers, rice cookers, egg cookers, holding/warming ovens. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.*
5. *Any appliance having an engineered exhaust system incorporated as part of the appliance's design.*

Commenter's Reason: Clarifying the code to specify what types of appliances are required under Type I and Type II hoods will help the users of the code. However, the proposed additional sentence to Section 507.2.2 conflicts with the first sentence of the same section. There are some light duty appliances, such as pizza ovens and cheesemelters, that produce grease. Regardless of the amount produced, a Type I hood should be installed over a cooking appliance that produces grease or smoke.

Final Hearing Results

M50-07/08

AMPC

Code Change No: **M52-07/08**

Original Proposal

Section: 507.2.2

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association/the Virginia Building and Code Officials Association

Delete and substitute as follows:

~~**507.2.2 (Supp) Type II hoods.** Type II hoods shall be installed where cooking or dishwashing appliances produce heat, steam, or products of combustion and do not produce grease or smoke, such as steamers, kettles, pasta cookers and dishwashing machines.~~

Exceptions:

- ~~1. Under counter type commercial dishwashing machines.~~
- ~~2. A Type II hood is not required for dishwashers and potwashers that are provided with heat and water vapor exhaust systems that are supplied by the appliance manufacturer and are installed in accordance with the manufacturer's instructions.~~

- ~~3. A single light-duty electric convection, bread, retherm or microwave oven. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.~~
- ~~4. A Type II hood is not required for the following electrically heated appliances: toasters, steam tables, popcorn poppers, hot dog cookers, coffee makers, rice cookers, egg cookers, holding/warming ovens. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.~~
- ~~5. Any appliance having an engineered exhaust system incorporated as part of the appliance's design.~~

507.2.2. Type II hoods. Type II hoods shall be installed above dishwashers and light-duty appliances that produce heat or moisture, except where the heat or moisture loads from such appliances are incorporated into the HVAC system design or into the design of a separate removal system. Type II hoods shall be installed above all light-duty appliances that produce products of combustion and do not produce grease or smoke. Spaces containing cooking appliances that do not require Type II hoods shall be ventilated in accordance with Section 403.3. For the purpose of determining the floor area required to be ventilated, each individual appliance that is not required to be installed under a Type II hood shall be considered as occupying not less than 100 square feet.

Reason: Over the past several code cycles the exception has long surpassed the rule of this section. This proposal attempts to correct this fundamental flaw in the IMC. The laundry list of exceptions keeps growing each year. Now that the list of items that do not require hoods has exceeded the list of what does, the format must change also. It is only proper, for clarity and ease of use; that the codes reflect the more correct approach to these type issues. The original small list of exceptions was created to provide some relief for counter top type appliances. But the terms counter top never made it into the code and since then the list just keeps expanding. Designers and installers alike are taking full advantage of the philosophy that they can compare just about any other light duty appliance to one the list and assert "similarity" and most localities are approving light duty appliances without the benefit of hoods. Before the 1996 IMC was introduced two of the three legacy codes never required Type II hoods. To date, no evidence has been produced that reflects any negative results found in the many existing installations of these type appliances without hoods.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Replacing the lists of appliances that do not require Type II hoods with this new language will allow more appliances to operate without hoods. Lists are never all-inclusive and this will allow new appliances that come on the market in the future to be operated without hoods.

Assembly Action:

None

Final Hearing Results

M52-07/08

AS

Code Change No: **M58-07/08**

Original Proposal

Section: 507.2.4

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association/the Virginia Building and Code Officials Association

Revise as follows:

507.2.4 Extra-heavy-duty. Type I hoods for use over extra-heavy-duty cooking appliances shall not cover other heavy, medium or light-duty appliances, that require fire extinguishing equipment and Such hoods shall discharge to an exhaust system that is independent of other exhaust systems.

Reason: As written this section makes very little sense. This would indicate that two solid fuel burning grills could not sit next to one another and utilize the same hood because the second requires fire suppression. The intent is to not have other types of appliances under the same hood as solid fuel burning appliances such as heavy, medium, or light duty appliances.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The current language would not allow two solid fuel-burning appliances to be served by one Type I hood. The code change clarifies the intent is to prevent heavy-duty, medium-duty and light-duty cooking appliances from being under the same hood as an extra-heavy-duty cooking appliance.

Assembly Action:

None

Final Hearing Results

M58-07/08

AS

Code Change No: M59-07/08

Original Proposal

Sections: 507.13.1, 507.13.2, 507.13.3, 507.13.4

Proponent: Antwone J. Ross, Chesterfield County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association

Revise as follows:

507.13.1 Extra-heavy-duty cooking appliances. The minimum net airflow for ~~Type I~~ hoods used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	Not allowed
Double island canopy (per side)	550
Eyebrow	Not allowed
Single island canopy	700
Wall-mounted canopy	550

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.2 Heavy-duty cooking appliances. The minimum net airflow for ~~Type I~~ hoods used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	400
Double island canopy (per side)	400
Eyebrow	Not allowed
Single island canopy	600
Wall-mounted canopy	400

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.3 Medium-duty cooking appliances. The minimum net airflow for ~~Type I~~ hoods used for medium-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	300
Double island canopy (per side)	300
Eyebrow	250
Single island canopy	500
Wall-mounted canopy	300

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.4 Light-duty cooking appliances. The minimum net airflow for ~~Type I~~ hoods used for light duty cooking appliances and food service preparation and cooking operations approved for use under a Type II hood shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	250
Double island canopy (per side)	250
Eyebrow	250
Single island canopy	400
Wall-mounted canopy	200

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

Reason: The purpose of the proposed change is to clarify the code requirements and allow more consistent enforcement.

The code does not explicitly state that medium duty, heavy-duty, and extra-heavy-duty appliances are required to be under type I hoods. However, this requirement is implied by section 507.13. Section 507.13 is used to determine exhaust rates and is not the appropriate section to determine the type of hood required. Section 507.2 is the section that provides guidance on hood type requirements. Current code requirements for a type I hood are based on whether the cooking appliance generates grease or smoke. It is common practice for the AHJ to evaluate some cooking appliances on a case-by-case basis taking into consideration type and frequency of cooking as it relates to grease and smoke production. Based on this line of reasoning, it is not uncommon for the AHJ to determine a medium-duty appliance (such as conveyor style pizza ovens or rotisserie ovens) does not produce significant amounts of grease or smoke and therefore belongs under a type II hood. When this occurs the code does not offer any guidance on the minimum required exhaust rate. Section 507.13 only specifies exhaust rates for medium-duty appliances under type I hoods or light duty appliances under type II hoods. There is no category for medium-duty appliances under type II hoods. If an AHJ only requires a type II hood for a medium-duty appliance, the code does not provide a minimum exhaust rate for that scenario. In summary, the hood type referenced in sections 507.13.1-507.13.4 is misleading and unnecessary. The intent of the prescribed exhaust rates is to ensure capture and containment of the effluents under the hood, regardless of whether its steam, smoke, grease, heat, odor...etc. Hood types should be determined in the 'where required' section.

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:

507.13.1 Extra-heavy-duty cooking appliances. The minimum net airflow for hoods, as determined by Section 507.2, used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	Not allowed
Double island canopy (per side)	550
Eyebrow	Not allowed
Single island canopy	700
Wall-mounted canopy	550

507.13.2 Heavy-duty cooking appliances. The minimum net airflow for hoods, as determined by Section 507.2, used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	400
Double island canopy (per side)	400
Eyebrow	Not allowed
Single island canopy	600
Wall-mounted canopy	400

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

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507.13.3 Medium-duty cooking appliances. The minimum net airflow for hoods, as determined by Section 507.2, used for medium-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	300
Double island canopy (per side)	300
Eyebrow	250
Single island canopy	500
Wall-mounted canopy	300

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.4 Light-duty cooking appliances. The minimum net airflow for hoods, as determined by Section 507.2, used for light duty cooking appliances and food service preparation shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	250
Double island canopy (per side)	250
Eyebrow	250
Single island canopy	400
Wall-mounted canopy	200

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

Committee Reason: This section provides guidance on determining the amount of airflow and is not the appropriate place to designate which type of hood is required for the various cooking appliances. The modification adds language that sends the user to Section 507.2 which is the correct section. This is consistent with the action taken on M60-07/08.

Assembly Action:

None

Final Hearing Results

M59-07/08

AM

Code Change No: **M60-07/08**

Original Proposal

Sections: 507.13.2, 507.13.3, 507.13.4

Proponent: Richard Swierczyna, Architectural Energy Corporation, representing the Commercial Kitchen Ventilation Technical Interest Group

Revise as follows:

507.13.2 Heavy-duty cooking appliances. The minimum net airflow for Type I or Type II hoods, as determined by Section 507.2, used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	400
Double island canopy (per side)	400
Eyebrow	Not allowed
Single island canopy	600
Wall-mounted canopy	400

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.3 Medium-duty cooking appliances. The minimum net airflow for Type I or Type II hoods, as determined by Section 507.2, used for medium-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	300
Double island canopy (per side)	300
Eyebrow	250
Single island canopy	500
Wall-mounted canopy	300

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.4 Light-duty cooking appliances. The minimum net airflow for Type I or Type II hoods, as determined by Section 507.2, used for light duty cooking appliances and food service preparation and cooking operations approved for use under a Type II hood shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	250
Double island canopy (per side)	250
Eyebrow	250
Single island canopy	400
Wall-mounted canopy	200

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

Reason: Clarify the intention that the appliance duty category dictates the hood airflow rate and that the cooking process emissions dictate the use of Type I or Type II hood.

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:

507.13.2 Heavy-duty cooking appliances. The minimum net airflow for Type I or Type II hoods as determined by Section 507.2 used for heavy-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	400
Double island canopy (per side)	400
Eyebrow	Not allowed
Single island canopy	600
Wall-mounted canopy	400

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.3 Medium-duty cooking appliances. The minimum net airflow for Type I or Type II hoods as determined by Section 507.2 used for medium-duty cooking appliances shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	300
Double island canopy (per side)	300
Eyebrow	250
Single island canopy	500
Wall-mounted canopy	300

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

507.13.4 Light-duty cooking appliances. The minimum net airflow for Type I or Type II hoods as determined by Section 507.2 used for light duty cooking appliances and food service preparation and cooking operations approved for use under a Type II hood shall be determined as follows:

Type of Hood	CFM per linear foot of hood
Backshelf/pass-over	250
Double island canopy (per side)	250
Eyebrow	250
Single island canopy	400
Wall-mounted canopy	200

For SI: 1 cfm per linear foot = 1.55 L/s per linear meter.

Committee Reason: This section is not the appropriate place to designate which type of hood is required for the various cooking appliances. The proposal sends the user to Section 507.2 which is the correct section. The modification deletes the reference to Type I and II hoods to be consistent with the action taken on M59-07/08.

Assembly Action:

None

Final Hearing Results

M60-07/08

AM

Code Change No: M61-07/08

Original Proposal

Section: 508.1

Proponent: Doug Horton, D.J. HORTON and Associated, Inc., representing the Commercial Kitchen Ventilation Technical Interest Group

Revise as follows:

508.1 (Supp) Makeup air. Makeup air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of makeup air supplied to the building from all sources shall be approximately equal to the amount of exhaust air for all exhaust systems for the building. The makeup air shall not reduce the effectiveness of the exhaust system. Makeup air shall be provided by gravity or mechanical means or both. For mechanical makeup air systems, the makeup air system shall be automatically controlled to start and operate simultaneously with the exhaust system. Makeup air intake opening locations shall comply with Sections 401.4 and 401.4.1.

Reason: The current section is often misapplied in situations where makeup air for exhaust hoods is provided through dedicated makeup air units in addition to providing makeup air through HVAC units. In these situations, it's clearly the intent of the code to maintain air balance as specified in Section 4. Instead, some code officials require that the amount dedicated makeup air shall be equal to the amount of exhaust air, which makes air balance unachievable because outdoor air from HVAC units that is used as makeup air is not considered. This misapplication creates an over pressurized condition, which is contrary to common design practice. The proposed revision clarifies the intent of the code and is consistent with common air balance design practice, by which all sources of makeup air and all uses of exhaust air are specified to be approximately equal, except for slight pressurization of the overall space.

The reasoning stated above is explained in the IMC Commentary for Section 508.1.1, but it's not in the commentary for Section 508.1, to which it applies also. Since code officials rely more on the explicit code provisions than the commentary, misapplication will be reduced by addition of the clarifying words 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: This code change will clarify that makeup air can come from other sources, such as through the HVAC system, rather than just from a dedicated system in the kitchen and the total of all of the sources of makeup air must be balanced with the exhaust systems in the building.

Assembly Action:

None

Final Hearing Results

M61-07/08

AS

Code Change No: **M62-07/08**

Original Proposal

Section: 508.1.1

Proponent: Doug Horton, D.J. HORTON and Associated, Inc., representing the Commercial Kitchen Ventilation Technical Interest Group

Revise as follows:

508.1.1 Makeup air temperature. The temperature differential between makeup air and the air in the conditioned space shall not exceed 10°F (6°C) except where the added heating and cooling loads of the makeup air do not exceed the capacity of the HVAC system.

Exceptions:

- ~~1. Makeup air that is part of the air conditioning system.~~
- ~~2. Makeup air that does not decrease the comfort conditions of the occupied space.~~

Reason: The proposed revision clarifies the intent of the code by adding language that embodies and strengthens the essence of the current exceptions, as explained extensively in the IMC Commentary and deletes the existing exceptions.

Previous exception #1 is unnecessary because makeup air delivered by the air conditioning system is heated and cooled to whatever space conditions are set by thermostats or other controls.

Previous exception # 2 is replaced by the proposed new language, which speaks to the heart of the issue: dedicated makeup units are provided in many commercial kitchen ventilation system designs to save energy by providing makeup air that is by design not heated or cooled to space conditions. This is possible by providing the makeup air near exhaust hoods, often directed toward exhaust hoods, such that the makeup air is exhausted before imposing significant heating or cooling load to the space. To the extent that dedicated makeup air might impose a load to the space, comfort conditions are maintained if the installed heating or cooling capacity is sufficient to handle the overall load. Whether dedicated makeup air is heated or cooled, and the extent to which it needs to be heated and cooled, depends upon the overall mechanical design, capacities of installed heating and cooling relative to internal and external heating and cooling loads, and the relative efficiencies of heating, cooling, and makeup air delivery designs. Design discretion should be given to mechanical designers such that energy savings are possible while comfort conditions are simultaneously maintained.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change deletes the two exceptions and adds the intent of the 2nd exception to the main section. Exception 1 was unnecessary because air from an HVAC already meets the intent of this section and Exception 2 was subjective.

Assembly Action:

None

Final Hearing Results

M62-07/08

AS

Code Change No: **M64-07/08**

Original Proposal

Section: 510.6.1

Proponent: Dave Collins, AIA, The Preview Group, Inc., representing the AIA Codes Committee

Revise as follows:

510.6.1 Fire dampers and smoke dampers. Fire dampers and smoke dampers are prohibited in hazardous exhaust ducts.

Reason: The exhaust system for hazardous materials should not be interrupted under any set of circumstances. It is important to have the ventilation of any of these materials flowing even if there is an emergency in order to minimize exposure to the responding personnel and to protect the environment.

Cost Impact: There is no cost impact for this code change. Most designers don't design and code officials don't require smoke dampers or fire dampers in high hazard exhaust systems because of the need to maintain such systems even in the event of an emergency.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: No dampers should be allowed in hazardous exhaust systems. Stopping the flow of such exhausts would pose safety risks for building occupants and emergency responders.

Assembly Action:

None

Final Hearing Results

M64-07/08

AS

Code Change No: **M67-07/08**

Original Proposal

Section: 601.4

Proponent: Mark Riley, City of Troy, MI, representing the Mechanical Inspectors of Michigan

Revise as follows:

601.4 Contamination prevention. Exhaust ducts under positive pressure, chimneys, and vents shall not extend into or pass through ducts or plenums.

Exception: Exhaust systems located in ceiling return air plenums over spaces that are permitted to have 10% recirculation in accordance with Section 403.2.1, Item 4. The exhaust duct joints, seams and connections shall comply with Section 603.9.

Reason: Based on previous code changes to allow toilet, shower rooms , bath rooms, and locker rooms in Section 403.2.1 and note h in the ventilation table 403.3 to allow 10% recirculation, to prohibit the same exhaust systems in the return air plenum does not make any sense. This code change will allow some flexibility of the designer to use smaller bath fans at the drop ceiling level, and not have to use a roof fan so that the ducts are not under positive pressure.

Usually these fans are a low static pressure of .10 water column and very little leakage in a plenum. With duct joints being sealed to Section 603.9, there would be very little leakage, if any, to cause any problems.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Because Section 403.2.1 allows some air to be recirculated from spaces such as locker rooms, it makes no sense to prohibit the same exhaust system from being in return air plenums over such spaces. This proposal will allow the designer more flexibility in designing exhaust systems.

Assembly Action:

None

Final Hearing Results

M67-07/08

AS

Code Change No: M71-07/08

Original Proposal

Sections: 602.2.1.4, 602.2.1.4.1 (New), 602.2.1.4.2 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Delete and substitute as follows:

~~**602.2.1.4 Combustible electrical equipment.** Combustible electrical equipment exposed within a plenum shall have a peak rate of heat release not greater than 100 kilowatts, a peak optical density not greater than 0.50 and an average optical density not greater than 0.15 when tested in accordance with UL 2043. Combustible electrical equipment shall be listed and labeled.~~

602.2.1.4 Electrical equipment in plenums. Electrical equipment exposed within a plenum shall comply with Sections 602.2.1.4.1 and 602.2.1.4.2.

2. Add new text as follows:

602.2.1.4.1 Equipment in metallic enclosures. Electrical equipment with metallic enclosures exposed within a plenum shall be permitted.

602.2.1.4.2 Equipment in combustible enclosures. Electrical equipment with combustible enclosures exposed within a plenum shall be listed and labeled for such use in accordance with UL 2043.

Reason: UL 2043 contains the peak rate of heat release and peak optical density requirements. This provides the code official the tools needed for 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 heat release and optical density requirements are contained in UL 2043 which is already specified in this section. This code change breaks the existing section into separate sections for clarity.

Assembly Action:

None

Final Hearing Results

M71-07/08

AS

Code Change No: **M75-07/08**

Original Proposal

Section: 603.7

Proponent: Tim Manz, University of Minnesota, representing the Association of Minnesota Building Officials (AMBO)

Revise as follows:

603.7 Rigid duct penetrations. Duct system penetrations of walls, floors, ceilings and roofs and air transfer openings in such building components shall be protected as required by Section 607. Ducts in a private garage and ducts penetrating the walls or ceilings separating a dwelling from a private garage shall be continuous and constructed of a minimum 26 gage (0.48 mm) galvanized sheet metal and shall not have openings into the garage. Fire and smoke dampers are not required in such ducts passing through the wall or ceiling separating a dwelling from a private garage except where required by Chapter 7 of the *International Building Code*.

Reason: The IMC and IBC do not clearly address duct penetrations of private garages in condominiums and townhouses that are built to the IMC and IBC, so this section clarifies that fire and smoke dampers are typically not required if the duct is continuous and constructed of minimum 26 gage sheet metal. This clarification is necessary due to the numerous misinterpretations of IBC Chapter 7 that have resulted in fire or smoke dampers being installed at these locations when it is not the intent of the code for them to be installed.

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:

603.7 Rigid duct penetrations. Duct system penetrations of walls, floors, ceilings and roofs and air transfer openings in such building components shall be protected as required by Section 607. ~~Ducts in a private garage and ducts penetrating the walls or ceilings separating a dwelling from a private garage shall be continuous and constructed of a minimum 26 gage (0.48 mm) galvanized sheet metal and shall have no openings into the garage. Fire and smoke dampers are not required in such ducts passing through the wall or ceiling separating a dwelling from a private garage except where required by Chapter 7 of the *International Building Code*.~~ Except where required by Chapter 7 of the *International Building Code*, fire and smoke dampers shall not be required in ducts passing through the walls or ceilings separating private garages from dwellings where all of the following conditions are met:

1. The ducts are continuous.
2. The ducts are constructed of a minimum of 26 gage (0.0187 inches) (0.048 mm) galvanized sheet metal.
3. The ducts do not have openings into the garage.

Committee Reason: The purpose of this code change is to clarify that ducts penetrating a wall or ceiling separating a garage from a dwelling unit are not required to have fire or smoke dampers if the ducts meet certain construction requirements. The modification further clarifies the requirements by breaking the new language into listed items.

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:

Tim Manz, University of Minnesota Building Code Division, representing the Association of Minnesota Building Officials (AMBO), requests Approval as Submitted.

Commenter's Reason: The IMC committee approved a modified version of the original code change proposal that actually changed the intent to make it less restrictive. As a result, it actually allows ducts passing through a private garage to have openings into the garage if protected with combination fire/smoke dampers. This is not the intent of the original code change proposal and would conflict with Section 309.1.1 of the IRC, which is what the proposed code change is based on. Condominiums and townhomes built to the IMC and IBC deserve the same level of protection that a similar structure built to the IRC is provided.

Final Hearing Results

M75-07/08

AS

Code Change No: **M79-07/08**

Original Proposal

Section: 603.9; IRC M1601.3.1

Proponent: John R. Addario, PE, New York State Department of State Codes Division

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Revise as follows:

603.9 (Supp) Joints, seams and connections. All longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC *Duct Construction Standards—Metal and Flexible* and NAIMA *Fibrous Glass Duct Construction Standards*. All joints, longitudinal and transverse seams, and connections in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems, liquid sealants, or tapes. ~~Closure systems~~ ~~Tapes and mastics~~ used to seal ductwork listed and labeled in accordance with UL 181A shall be marked “181A-P” for pressure-sensitive tape, “181 A-M” for mastic or “181 A-H” for heat-sensitive tape. ~~Closure systems~~ ~~Tapes and mastics~~ used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked “181B-FX” for pressure-sensitive tape or “181B-M” for mastic. Duct connections to flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's installation instructions. Unlisted duct tape is not permitted as a sealant on any metal ducts.

PART II – IRC-M

Revise as follows:

M1601.3.1 (Supp) Joints and seams. Joints of duct systems shall be made substantially airtight by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked “181A-P” for pressure-sensitive tape, “181A-M” for mastic or “181

A-H” for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked “181B-FX” for pressure-sensitive tape or “181B-M” for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked “181B-C.” Crimp joints for round metal ducts shall have a contact lap of at least 1 1/2 inches (38 mm) and shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacture's installation instructions.

Exceptions:

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.

Reason (Part I): The purpose of this proposal is to create consistency between the IMC and the IRC. The residential requirement refers to “Closure Systems” rather than “Tapes and Mastics”. The term “Closure systems” applies to all products used to seal these ducts rather than just “tapes and mastics” The use of term “Closure Systems” is a better term, since it does apply to anything used to seal these ducts and is UL 181 Listed. Also, this proposal addresses sealing of metal ductwork. Sheet metal ducts are not specifically addressed in the current requirements, other than prohibiting the use of unlisted duct tape. Currently there does not exist any listing for closure system used for metal ductwork. This proposed change provides the requirement that the product must be installed in accordance with the manufactures recommended application and instructions. By requiring that they be used in accordance with manufactures recommended application, the product must be intended to be used to seal metal ducts by the manufacturer.

Reason (Part II): The purpose of this proposal is to create consistency between the IMC and the IRC. This proposal addresses sealing of metal ductwork. Sheet metal ducts are not specifically addressed in the current requirements, other than prohibiting the use of unlisted duct tape. Currently there does not exist any listing for closure system used for metal ductwork. This proposed change provides the requirement that the product must be installed in accordance with the manufactures recommended application and instructions. By requiring that they be used in accordance with manufactures recommended application, the product must be intended to be used to seal metal ducts by the manufacturer.

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

Public Hearing Results

PART I – IMC

Committee Action:

Approved as Submitted

Committee Reason: This code change adds needed guidance for sealing metal ductwork and changes the term “tapes and mastics” to the more appropriate “closure systems”.

Assembly Action:

None

PART II – IRC-M

Committee Action:

Approved as Submitted

Committee Reason: This code change adds needed guidance for sealing metal ductwork. The committee wanted this section to be consistent with the IMC.

Assembly Action:

None

Final Hearing Results

**M79-07/08, Part I
M79-07/08, Part II**

**AS
AS**

Code Change No: **M80-07/08**

Original Proposal

Sections: 603.9; IRC M1601.3.1

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Revise as follows:

603.9 (Supp) Joints, seams and connections. All longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC *Duct Construction Standards—Metal and Flexible* and NAIMA *Fibrous Glass Duct Construction Standards*. All joints, longitudinal and transverse seams, and connections in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems, liquid sealants, or tapes. Tapes and mastics used to seal ductwork listed and labeled in accordance with UL 181A shall be marked “181A-P” for pressure-sensitive tape, “181 A-M” for mastic or “181 A-H” for heat-sensitive tape. Tapes and mastics used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked “181B-FX” for pressure-sensitive tape or “181B-M” for mastic. Duct connections to flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Unlisted duct tape is not permitted as a sealant on any metal ducts.

Exception: Continuously welded and locking type longitudinal joints and seams in ducts operating at static pressures less than 2-inches of water column (500 Pa) pressure classification shall not require additional closure systems.

PART II – IRC-M

M1601.3.1 (Supp) Joints and seams. Joints of duct systems shall be made substantially airtight by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL181A and shall be marked “181A-P” for pressure-sensitive tape, “181A-M” for mastic or “181 A-H” for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked “181B-FX” for pressure-sensitive tape or “181B-M”for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked “181B-C.” Crimp joints for round metal ducts shall have a contact lap of at least 1 1/2 inches (38 mm) and shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint.

Exceptions:

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking type longitudinal joints and seams in ducts operating at static pressures less than 2-inches of water column (500 Pa) pressure classification shall not require additional closure systems.

Reason: According to SMACNA Table 1-2, these types of joints are exempt from the sealing requirements. This should have been included in the original IRC and IMC change.

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

Public Hearing Results

PART I – IMC

Committee Action:

Approved as Submitted

Committee Reason: The exception allows continuously welded and locking type joints to be exempt from sealing. This agrees with the SMACNA standard.

Assembly Action:

None

PART II – IRC-M

Committee Action:

Approved as Submitted

Committee Reason: The exception allows continuously welded and locking type joints to be exempt from sealing. This is already allowed in DOE's RESCHECK software for energy conservation.

Assembly Action:

None

Final Hearing Results

M80-07/08, Part I	AS
M80-07/08, Part II	AS

Code Change No: M81-07/08

Original Proposal

Section: 603.17.3

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing & Mechanical Inspectors Association/the Virginia Building and Code Officials Association

Delete without substitution:

~~**603.17.3 (Supp) Air dispersion systems.** Air dispersion systems shall be exposed in the space that is being conditioned by the system and shall be operated under positive pressure. Air dispersion systems shall not pass through fire-resistance-rated assemblies. Air dispersion systems shall be listed and labeled.~~

Reason: This was M-98 last code change cycle. The original proposal included a standard for these systems. However the standard did not comply with ICC criteria. So the proponent deleted the standard reference instead of going back and adjusting the standard. Now we have a system in the code text with no reference standard to verify compliance. Chapter 3 requires listing and labeling and so does this text. What does this system have to be listed to? This is totally out of the concept the I Codes attempt to stay within, the text can not require something to be listed and labeled but never reference listed to what.

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

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Air dispersion systems are useful products that need to be recognized in the code. Not all listed items in the code have standards that meet ICC criteria for standards.

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:

Guy Tomberlin, Fairfax County, VA, representing the VA Plumbing and Mechanical Inspectors Association and VA Building and Code Officials Association, requests Approval as Submitted.

Commenter's Reason: This section permits the installation of products that have absolutely no standardized installation or manufacturing criteria. This text was approved last code cycle, M-98 but it actually contained a reference standard as originally proposed. Only the standard did not comply with ICC policy so instead of disapproving the text the standard was deleted. This would have seemed reasonable only the proponent never made any attempt to make the adjustments to the standard and resubmit for ICC acceptance. Now we have code language that requires listing and labeling but never provides the guidance as to be listed and labeled to what? This has caused an undesirable situation when it comes to the actual installation. There is no way to achieve uniform application and enforcement of something that has no recognized methods, procedures and practices such as those typically found in a reference standard.

Lastly the text is flawed even if it contained a reference standard. The first sentence appears to require this type product to remain exposed however it really doesn't say that. This material could be installed in an under floor situation that has "lift out" floor tiles and comply with this code section. The intent of this product was that it would always be installed in a visible location but that is not what the text states. The under floor system would be installed and probably never looked at again, just as other duct material that is required to meet certain standard and installation criteria. This text, simply put, has created an unfair advantage over the other duct material/systems currently referenced in the IMC that do have to meet some minimum standard and do have installation criteria. The insertion of this section goes against all principals that the I-codes have worked so hard to incorporate over the past several years. The I-code process welcomes and embraces new products and materials, only they must have some minimum level of standardization in order to accomplish uniformity.

Final Hearing Results

M81-07/08

AS

Code Change No: **M84-07/08**

Original Proposal

Section: 607.5.5.1 (New)

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Add new text as follows:

[B] 607.5.5.1 Enclosure at the bottom. Shaft enclosures that do not extend to the bottom of the building or structure, shall be protected in accordance with Section 707.11 of the *International Building Code*.

Reason: The mechanical inspector needs to be aware of this requirement when looking into a shaft with no bottom. Currently this is not referenced in the IMC.

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

Analysis: Section 607 of the IMC is under the purview of the IBC Fire Safety committee, however, this proposal is on the IMC committee agenda because the proposal is simply a reference to the IBC provisions and it is at the discretion of the IMC committee to add such new text.

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Shaft enclosures that do not extend to the bottom of the building need to be protected at the bottom. This is covered in the IBC and needs to be in the IMC as well.

Assembly Action:

None

Final Hearing Results

M84-07/08

AS

Code Change No: M86-07/08

Original Proposal

Section: 801.2

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

801.2 General. Every fuel-burning appliance shall discharge the products of combustion to a vent, factory-built chimney or masonry chimney, except for appliances vented in accordance with Section 804. The chimney or vent shall be designed for the type of appliance being vented.

Exception: Appliances vented by a Type I hood installed in accordance with Section 507.

Reason: Type I hoods when installed in accordance with this code are quite capable of exhausting products of combustion from a variety of fuel sources such as wood burning char-broilers. Some appliances do not necessarily need a factory built chimney. This section currently doesn't recognize this practice.

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

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The action was based on the proponent's request for disapproval.

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:

Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO), requests Approval as Modified by this Public Comment.

Modify proposal as follows:

801.2 General. Every fuel-burning appliance shall discharge the products of combustion to a vent, factory-built chimney or masonry chimney, except for appliances vented in accordance with Section 804. The chimney or vent shall be designed for the type of appliance being vented.

Exception: Commercial cooking appliances vented by a Type I hood installed in accordance with Section 507.

Commenter's Reason: We asked the committee to disapprove this in error. This section leads one to believe that appliances must be directly attached to a vent. Indirect venting is permissible if done correctly. As long as hoods are installed according to 507 indirect venting is permissible. This exception legitimizes this practice.

Final Hearing Results

M86-07/08

AMPC

Code Change No: M87-07/08

Original Proposal

Section: 913.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

913.1 General. Clothes dryers shall be installed in accordance with the manufacturer's installation instructions. Electric residential clothes dryers shall be tested in accordance with an approved test standard. UL 2158. Electric coin-operated clothes dryers shall be tested in accordance with UL 2158. Electric commercial clothes dryers shall be tested in accordance with UL 1240. ~~Electric coin-operated clothes dryers shall be tested in accordance with UL 2158.~~

Reason: Provides the approved test Standard for residential clothes dryers and rearranges the section to read more clearly.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change reorganizes the section to apply the correct standards to the various appliances.

Assembly Action:

None

Final Hearing Results

M87-07/08

AS

Code Change No: **M88-07/08**

Original Proposal

Sections: 918.6; IRC M1602.2; IFGC 618.5

Proponents: Jim Weiler, Pueblo County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO); Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC, THE IRC MECHANICAL AND THE IFGC CODE DEVELOPMENT COMMITTEES AS 3 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Revise as follows:

918.6 Prohibited sources. Outdoor or return air for a forced-air heating system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outdoor air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in this code.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Sections 918.2 and 918.3, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room ~~or~~ furnace room, attic or crawl space.
6. A room or space containing a fuel-burning appliance where such room or space serves as the sole source of return air.

Exceptions:

1. This shall not apply where the fuel-burning appliance is a direct-vent appliance.
2. This shall not apply where the room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. This shall not apply to rooms or spaces containing solid fuel-burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.

Reason: There are times when it is required to heat a crawl space for various reasons but installing a return air duct doesn't mean it is fully conditioned. There are good reasons not to do this. Mold, odors and insects just to name a few. The IMC doesn't specifically prohibit this situation although implied. This language will clarify that this should not occur.

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

PART II – IRC-M**Revise as follows:**

M1602.2 Prohibited sources. Outdoor and return air for a forced-air heating or cooling system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) to an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.
2. Where flammable vapors are present; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with ACCA Manual D, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

4. A closet, bathroom, toilet room, kitchen, garage, mechanical room, furnace room, attic, crawl space, or other dwelling unit.
5. A room or space containing a fuel-burning appliance where such room or space serves as the sole source of return air.

Exceptions:

1. The fuel-burning appliance is a direct-vent appliance or an appliance not requiring a vent in accordance with Section M1801.1 or Chapter 24.
2. The room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. Rooms or spaces containing solid-fuel burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.

Reason: There are times when it is required to heat a crawl space for various reasons but installing a return air duct doesn't mean it is fully conditioned. There are good reasons not to do this. Mold, odors and insects just to name a few. The IRC doesn't specifically prohibit this situation although implied. This language would clarify that this should not occur

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

PART III – IFGC**Revise as follows:**

618.5 Prohibited sources. Outside or return air for a forced-air heating system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in the *International Mechanical Code*.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Section 618.2, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A room or space containing an appliance where such a room or space serves as the sole source of return air.

Exception: This shall not apply where:

1. The appliance is a direct-vent appliance or an appliance not requiring a vent in accordance with Section 501.8.
2. The room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. Rooms or spaces containing solid fuel-burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.

6. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room ~~or~~ furnace room, attic, or crawl space.

Reason: There are times when it is required to heat a crawl space for various reasons but installing a return air duct doesn't mean it is fully conditioned. There are good reasons not to do this. Mold, odors and insects just to name a few. The IFGC doesn't specifically prohibit this situation although implied. This language would clarify that this should not occur.

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

Public Hearing Results

PART I – IMC

Committee Action:

Disapproved

Committee Reason: The committee thought that the last sentence in the proposed modification was confusing and needed to be deleted. Without the modification that added the term "unconditioned" to attics and crawl spaces, the proposed language is incomplete because it is appropriate to take return air from conditioned attics and crawl spaces.

Assembly Action:

None

PART II – IRC-M

Committee Action:

Approved as Modified

Modify proposal as follows:

M1602.2 Prohibited sources. Outdoor and return air for a forced-air heating or cooling system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) to an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.
2. Where flammable vapors are present; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with ACCA Manual D, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

4. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room, unconditioned ~~attic,~~ ~~crawl space,~~ or other dwelling unit.
5. A room or space containing a fuel-burning appliance where such room or space serves as the sole source of return air.
6. An unconditioned crawl space by means of direct connection to the return side of a forced air system.
Transfer openings in the crawl space enclosure shall not be prohibited.

Exceptions:

1. The fuel-burning appliance is a direct-vent appliance or an appliance not requiring a vent in accordance with Section M1801.1 or Chapter 24.

2. The room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. Rooms or spaces containing solid-fuel burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.

Committee Reason: This proposal adds attics and crawl spaces to the list of spaces from which return air must not be taken. Mold and odors from unconditioned attics and crawl spaces could be introduced into the conditioned space without this prohibition. The modification creates a new item for crawl spaces and adds the term "unconditioned" to both attics and crawl spaces to clarify that taking return air from conditioned attics and crawl spaces would be acceptable.

Assembly Action:
PART III – IFGC
Committee Action:

None

Approved as Modified

Modify proposal as follows:

618.5 Prohibited sources. Outside or return air for a forced-air heating system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in the *International Mechanical Code*.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Section 618.2, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A room or space containing an appliance where such a room or space serves as the sole source of return air.

Exception: This shall not apply where:

1. The appliance is a direct-vent appliance or an appliance not requiring a vent in accordance with Section 501.8.
2. The room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. Rooms or spaces containing solid fuel-burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.

6. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, or furnace room, or attic, or crawl space.

7. A crawl space by means of direct connection to the return side of a forced air system. Transfer openings in the crawl space enclosure shall not be prohibited.

Committee Reason: Return air should not be taken from attics and crawl spaces because of contaminants that could be present in such spaces. The modification creates a separate item for crawl spaces recognizing that although direct connection between the return air duct system and the crawl space is undesirable, air taken from the crawl space through transfer openings should not pose a problem.

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:

Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO), requests Approval as Modified by this Public Comment.

Modify proposal as follows:

918.6 Prohibited sources. Outdoor or return air for a forced-air heating system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outdoor air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in this code.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Sections 918.2 and 918.3, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room or unconditioned attic or crawl space.
6. An unconditioned crawl space by means of direct connection to the return side of a forced air system. Transfer openings in the crawl space enclosure shall not be prohibited.
7. A room or space containing a fuel-burning appliance where such room or space serves as the sole source of return air.

Exceptions:

1. This shall not apply where the fuel-burning appliance is a direct-vent appliance.
2. This shall not apply where the room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. This shall not apply to rooms or spaces containing solid fuel-burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.

Commenter's Reason: This proposal was approved as originally modified in the IRC and IFGC. We are requesting this be Approved as Modified by this Public Comment in order to be consistent with the other two documents. The last sentence in Item #5 was the concern, the committee believing it wasn't needed. This sentence actually will eliminate any confusion as to the intent. A direct connection to an unconditioned crawl space is undesirable therefore the only way to pull air out would be through transfer openings which are ok. This sentence will aid the user as to the real intent of this section. **It is very important that the codes are consistent in language.**

Final Hearing Results

M88-07/08, Part I	AMPC
M88-07/08, Part II	AM
M88-07/08, Part III	AM

Code Change No: M89-07/08

Original Proposal

Sections: 927 (New), 927.1 (New), 927.2 (New), Chapter 15 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Add new text as follows:

SECTION 927
HEAT RECOVERY VENTILATORS

927.1 Ducted heat recovery ventilators. Ducted heat recovery ventilators shall be listed and labeled in accordance with UL 1812.

927.2 Non-ducted heat recovery ventilators. Non-ducted heat recovery ventilators shall be listed and labeled in accordance with UL 1815.

2. Add standards to Chapter 15:

UL

1812-05 Standard for Ducted Heat Recovery Ventilators--with revisions through January 2006

1815-01 Standard for Nonducted Heat Recovery Ventilators--with revisions through January 2006

Reason: The IECC requires heat recovery equipment. This provides the information needed to the IMC.

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 standards UL 1812-05 and UL 1815-01 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: This code change provides approved standards for heat recovery ventilators. The IECC requires heat recovery equipment but the IMC would control the installation of such equipment.

Assembly Action:

None

Final Hearing Results

M89-07/08

AS

Code Change No: **M90-07/08**

Original Proposal

Section: 1003.1

Proponent: Jeffrey M. Shapiro, PE, international Code Consultants, representing Steel Tank Institute

Revise as follows:

1003.1 General. All pressure vessels shall be constructed in accordance with the ASME *Boiler and Pressure Vessel Code* and shall bear the label of an approved agency and shall be installed in accordance with the manufacturer's installation instructions.

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. 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 reference is also missing for vessels that contain hazardous materials, which are regulated in the IFC. A separate proposal has been submitted to the IFC to accomplish that change.

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:

1003.1 General. All pressure vessels shall be constructed in accordance with the ASME *Boiler and Pressure Vessel Code* and shall bear the label of an approved agency and shall be installed in accordance with the manufacturer's installation instructions.

Committee Reason: Most states have this requirement in their state codes. This code change will make it a requirement for all jurisdictions that adopt this code. The modification deleted the term "constructed" to allow the ASME *Boiler and Pressure Vessel Code* to address the scope of the application of the standard.

Assembly Action:

None

Final Hearing Results

M90-07/08

AM

Code Change No: **M91-07/08**

Original Proposal

Sections: 1101.10 (New); IRC M1411.6 (New)

Proponent: Mona Casey, Naples, FL

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

Add new text as follows:

1101.10 Locking access port caps. Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps.

PART II – IRC

Add new text as follows:

M1411.6 Locking access port caps. Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps.

Reason: The purpose of this code modification is to add new requirements to the Code. The existing code does not address the issue of accessibility to the lethal chemical Chlorofluorocarbons (CFCs/Freon) by untrained and unlicensed individuals, including children.

Because the lethal chemical Freon is easily accessible, "huffing", which refers to the inhalation of Freon and other dangerous chemicals, has been on the rise over the past few years not only among pre-teens and teenagers but among adults as well. Freon is highly addictive and is considered a gateway drug because users often progress from inhalants to illegal drugs and alcohol.

National Statistics

- The National Institute on Drug Abuse reports that one in five American teens have used Inhalants to get high.
- According to Stephen J. Pasierb, President and CEO of The Partnership for Drug-Free America, 22% of 6th and 8th graders admitted abusing inhalants and only 3% of parents think their child has ever abused inhalants.
- An analysis of 144 Texas death certificates by the Texas Commission on Alcohol and Drug Abuse involving misuse of inhalants found that the most frequently mentioned inhalant (35%) was Freon (51 deaths). Of the Freon deaths, 42 percent were students or youth with a mean age of 16.4 years.
- Suffocation, inhaling fluid or vomit into the lungs, and accidents each cause about 15% of deaths linked to inhalant abuse.
- National Institute on Drug Abuse's 'Monitoring the Future' study reveals that inhalant abuse among 8th graders is up 7.7% since 2002.

55% of deaths linked to inhalant abuse are caused by "Sudden Sniffing Death Syndrome." SSDS can occur on the first use or any use. The Inhalant causes the heart to beat rapidly and erratically, resulting in cardiac arrest.

22% of inhalant abusers who died of SSDS had no history of previous inhalant abuse. In other words, they were first-time users.

Collier County, FL Statistics

- The use of inhalants in middle schools has doubled in two years
 - The average age a child starts using drugs or alcohol is just 12½
 - Every third day a child is taken to the hospital because of a drug overdose
 - 85 percent of all juvenile criminal cases are substance related
 - Deaths due solely to drug toxicity increased 76% between 1998 and 2005

The modification of this code will have an immense positive impact on the safety and health of our citizens, especially our youth. It will reduce the number of deaths associated with Inhalant abuse and the number of injuries associated with Freon accidents and leaks.

The modification of this code will:

- Seal service valve to prevent leaks
- Prevent excessive energy usage due to refrigerant loss
- Help prevent illegal venting of refrigerant
- Support every EPA management program
- Help prevent accidental mixing of refrigerant
- Deter refrigerant theft at unsecured sites
- Help prevent access by unauthorized persons
- Help prevent loss from cylinders and recovery tanks
- Reduce potential liability for inhalation induced injury or death

Cost Impact: The code change proposal will increase the cost of construction. The current cost of this locking refrigerant cap based on the companies I contacted ranges from \$20-\$30 per pair (installation not included).

Public Hearing Results

PART I – IMC**Committee Action:****Disapproved**

Committee Reason: This is not an enforcement issue for the mechanical inspector. This should be addressed at the manufacturer's level rather than in the code. There are other ways to address this issue.

Assembly Action:**Approved as Submitted****PART II – IRC-M****Committee Action:****Disapproved**

Committee Reason: The installation of locking access port caps would be better addressed with the HVAC manufacturers rather than in the code. Having them installed during the manufacturing process would insure wider usage and would probably have less cost impact to the homeowner.

Assembly Action:**None**

Final Hearing Results

M91-07/08, Part I	AS
M91-07/08, Part II	AS

Code Change No: **M93-07/08**

Original Proposal

Table 1103.1

Proponent: Steve Ferguson, American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)

Revise as follows:

[F]Table 1103.1 (Supp)
REFRIGERANT CLASSIFICATION, AMOUNT AND TLV-TWA
as approved by the American Society of Heating Refrigerating and
Air-Conditioning Engineers and Revised 2004

Chemical Refrigerant	Formula	Chemical Name of Blend	Hazard Categories ^a	Refrigerant Classification	Degrees of Hazard ^b	[M] Amount Of Refrigerant Per Occupied Space			
						Pound per 1,000 cubic feet	ppm	g/m3	OEL ^f TLV-TWA ^g (ppm)
R-11 ^e	CCl ₃ F	trichlorofluoromethane	OHH	A1	2-0-0 ^c	0.39	1,100	6.2	C1,000
R-12 ^e	CCl ₂ F ₂	dichlorodifluoromethane	CG,OHH	A1	2-0-0 ^c	5.6	18,000	90	1,000
R-13 ^e	CClF ₃	chlorotrifluoromethane	CG,OHH	A1	2-0-0 ^c	18	67,000	290	1,000
R-13B1 ^e	CBrF ₃	bromotrifluoromethane	CG,OHH	A1	2-0-0 ^c	22	57,000	350	1,000
R-14	CF ₄	tetrafluoromethane (carbon tetrafluoride)	CG,OHH	A1	2-0-0 ^c	<u>25</u>	<u>110,000</u>	<u>400</u>	1,000
R-22	CHClF ₂	chlorodifluoromethane	CG,OHH	A1	2-0-0 ^c	13	59,000	210	1,000
R-23	CHF ₃	trifluoromethane (fluoroform)	CG,OHH	A1	2-0-0 ^c	7.3	41,000	120	1,000
R-32	CH ₂ F ₂	difluoromethane (methylene fluoride)	CG,F,OHH	A2	—	4.8	36,000	77	1,000
R-113 ^e	CCl ₂ FCClF ₂	1, 1,2-trichloro-1,2,2-trifluoroethane	OHH	A1	2-0-0 ^c	1.2	2,600	20	1,000
R-114 ^e	CClF ₂ CClF ₂	1,2-dichloro-1,2,2-tetrafluoroethane	CG,OHH	A1	2-0-0 ^c	8.7	20,000	140	1,000
R-115	CClF ₂ CF ₃	chloropentafluoroethane	CG,OHH	A1		47	120,000	760	1,000
R-116	CF ₃ CF ₃	hexafluoroethane	CH,OHH	A1	1-0-0	34	97,000	550	1,000
R-123	CHCl ₂ CF ₃	2,2-dichloro-1,1,1-trifluoroethane	OHH	B1	2-0-0 ^c	3.5	9,100	57	50
R-124	CHClFCF ₃	2-chloro-1,1,1,2-tetrafluoroethane	CG,OHH	A1	2-0-0 ^c	3.5	10,000	56	1,000
R-125	CHF ₂ CF ₃	pentafluoroethane	CG,OHH	A1	2-0-0 ^c	<u>23</u>	<u>75,000</u>	<u>370</u>	<u>1,000</u>
R-134a	CH ₂ FCF ₃	1,1,1,2-tetrafluoroethane	CG,OHH	A1	2-0-0 ^c	13	50,000	210	1,000
R-141b	CH ₃ CCl ₂ F	1,1-dichloro-1-fluoroethane	CG,OHH			<u>0.78</u>	<u>2,600</u>	<u>12</u>	
R-142b	CH ₃ CClF ₂	1-chloro-1,1-difluoroethane	CG,OHH	A2		5.1	20,000	83	1,000
R-143a	CH ₃ CF ₃	1,1,1-trifluoroethane	CG,F,OHH	A2	2-0-0 ^c	4.5	21,000	70	1,000
R-152a	CH ₃ CHF ₂	1,1-difluoroethane	CG,F,OHH	A2	1-4-0	2.0	12,000	32	1,000
R-170	CH ₃ CH ₃	ethane	CG,F,OHH	A3	2-4-0	0.54	7,000	8.7	1,000
R-E170	CH ₃ OCH ₃	dimethyl ether	CG,F,OHH	A3		1.0	8,500	16	1,000
R-218	CF ₃ CF ₂ CF ₃	octafluoropropane	CG,OHH	A1	2-0-0 ^c	43	90,000	690	1,000
R-227ea	CF ₃ CHFCF ₃	1,1,1,2,3,3,3-heptafluoropropane	CG,OHH	A1		<u>36</u>	<u>84,000</u>	<u>580</u>	<u>1,000</u>
R-236fa	CF ₃ CH ₂ CF ₃	1,1,1,3,3,3-hexafluoropropane	CG,OHH	A1	2-0-0 ^c	21	55,000	<u>340</u>	1,000
R-245fa	CHF ₂ CH ₂ CF ₃	1,1,1,3,3-pentafluoropropane	CG,OHH	B1	2-0-0 ^c	12	34,000	<u>190</u>	300
R-290	CH ₃ CH ₂ CH ₃	propane	CG,F,OHH	A3	2-4-0	0.56	5,300	9.5	2,500
R-C318	-(CF ₂) ₄ -	octafluorocyclobutane	CG,OHH	A1		41	80,000	660	1,000
R400 ^e	zeotrope	R-12/114 (50/50)	CG,OHH	A1	2-0-0 ^c	10	28,000	160	—
R-400 ^e	zeotrope	R-12/114 (60/40)	CG,OHH	A1		11	30,000	170	
R-401A	zeotrope	R-22/152a/124 (53/13/34)	CG,OHH	A1	2-0-0 ^c	<u>6.6</u>	<u>27,000</u>	<u>110</u>	<u>1,000</u>
R-401B	zeotrope	R-22/152a/124 (61/11/28)	CG,OHH	A1	2-0-0 ^c	7.2	30,000	120	1,000
R-401C	zeotrope	R-22/152a/124 (33/15/52)	CG,OHH	A1	2-0-0 ^c	<u>5.2</u>	<u>20,000</u>	<u>84</u>	—
R-402A	zeotrope	R-125/290/22 (60/2/38)	CG,OHH	A1	2-0-0 ^c	8.5	33,000	140	1,000
R-402B	zeotrope	R-125/290/22 (38/2/60)	CG,OHH	A1	2-0-0 ^c	15	63,000	240	1,000

Chemical Refrigerant	Formula	Chemical Name of Blend	Hazard Categories ^a	Refrigerant Classification	Degrees of Hazard ^b	[[M]] Amount Of Refrigerant Per Occupied Space			
						Pound per 1,000 cubic feet	ppm	g/m ³	OEL ^f TLV-TWA ^f (ppm)
R-403A	zeotrope	R-290/22/218 (5/75/20)	CG,OHH	A1	2-0-0 ^c	7.6	33,000	120	1,000
R-403B	zeotrope	R-290/22/218 (5/56/39)	CG,OHH	A1	2-0-0 ^c	18	70,000	290	1,000
R-404A	zeotrope	R-125/143a/134a (44/52/4)	CG,OHH	A1	2-0-0 ^c	31	130,000	500	1,000
R-405A	zeotrope	R-22/152a/142b/C318 (45.0/7.0/5.5/2.5)	CG,OHH			16	57,000	260	1,000
R-406A	zeotrope	R-22/600a/142b (55/4/41)	CG,F,OHH	A2	—	4.7	21,000	25	1,000
R-407A	zeotrope	R-32/125/134a (20/40/40)	CG,OHH	A1	2-0-0 ^c	18	78,000	290	1,000
R-407B	zeotrope	R-32/125/134a (10/70/20)	CG,OHH	A1	2-0-0 ^c	20	77,000	320	1,000
R-407C	zeotrope	R-32/125/134a (23/25/52)	CG,OHH	A1	2-0-0 ^c	17	76,000	270	1,000
R-407D	zeotrope	R-32/125/134a (15/15/70)	CG,OHH	A1	2-0-0 ^c	15	65,000	240	1,000
R-407E	zeotrope	R-32/125/134a (25/15/60)	CG,OHH	A1	2-0-0 ^c	16	75,000	260	1,000
R-408A	zeotrope	R-125/143a/22 (7/46/47)	CG,OHH	A1	2-0-0 ^c	21	95,000	340	1,000
R-409A	zeotrope	R-22/124/142b (60/25/15)	CG,OHH	A1	2-0-0 ^c	7.1	29,000	110	1,000
R-409B	zeotrope	R-22/124/142b (65/25/10)	CG,OHH	A1	2-0-0 ^c	7.3	30,000	120	—
R-410A	zeotrope	R-32/125 (50/50)	CG,OHH	A1	2-0-0 ^c	25	130,000	390	1,000
R-410B	zeotrope	R-32/125 (45/55)	CG,OHH	A1	2-0-0 ^c	24	130,000	390	—
R-411A	zeotrope	R-127/22/152a (1.5/87.5/11.0)	CG,F,OHH	A2	—	2.9	14,000	46	1,000
R-411B	zeotrope	R-127/22/152a (3/94/3)	CG,F,OHH	A2	—	2.8	13,000	45	1,000
R-412A	zeotrope	R-22/318/142b (70/5/25)	CG,F,OHH	A2	—	5.1	22,000	82	1,000
R-413A	zeotrope	R-218/134a/600a (9/88/3)	CG,F,OHH	A2	—	5.8	22,000	94	—
R-414A	zeotrope	R-22/124/600a/142b (51/28.5/4/16.5)	CG,OHH	A1	—	6.4	26,000	100	1,000
R-414B	zeotrope	R-22/124/600a/142b (50/39/1.5/9.5)	CG,OHH	A1	—	6.0	23,000	95	—
R-415A	zeotrope	R-22/152a (82.0/18.0)	CG,F,OHH	A2		12	57,000	190	
R-415B	zeotrope	R-22/152a (25.0/75.0)	CG,F,OHH	A2		9.3	52,000	120	1,000
R-416A	zeotrope	R-134a/124/600 (59/39.5/1.5)	CG,OHH	A1	2-0-0 ^c	3.9	14,000	62	—
R-417A	zeotrope	R-125/134a/600 (45.5/50/3.5)	CG,OHH	A1	2-0-0 ^c	3.5	13,000	56	1,000
R-418A	zeotrope	R-290/22/152a (1.5/96.0/2.5)	CG,F,OHH	A2	—	13	59,000	200	
R-419A	zeotrope	R-125/134a/E170 (77.0/19.0/4.0)	CG,F,OHH	A2	—	19	70,000	310	
R-420A	zeotrope	R-134a/142b (88.0/12.0)	CG,OHH	A1	2-0-0 ^c	12	45,000	190	1,000
R-421A	zeotrope	R-125/134a(58.0/42.0)	CG,OHH	A1	2-0-0 ^c	17	61,000	280	1,000
R-421B	zeotrope	R-125/134a (85.0/15.0)	CG,OHH	A1	2-0-0 ^c	21	69,000	330	1,000
R-422A	zeotrope	R-125/134a/600a (85.1/11.5/3.4)	CG,OHH	A1	2-0-0 ^c	18	63,000	290	1,000
R-422B	zeotrope	R-125/134a/600a (55.0/42.0/3.0)	CG,OHH	A1	2-0-0 ^c	16	26,000	250	1,000
R-422C	zeotrope	R-125/134a/600a (82.0/15.0/3.0)	CG,OHH	A1	2-0-0 ^c	18	62,000	290	1,000
R-422D	zeotrope	R-125/134a/600a (65.1/31.5/3.4)	CG,OHH	A1	2-0-0 ^c	16	58,000	260	1,000
R-423A	zeotrope	R-134a227ea (52.5/47.5)	CG,OHH			2-0-0 ^c	19	59,000	310
R-424A	zeotrope	R-125/134a/600a/600/601a (50.5/47.0/1.0/0.6)	CG,OHH	A1	2-0-0 ^c	6.2	23,000	100	1,000
R-425A	zeotrope	R-32/134a/227ea (18.5/69.5/12.0)	CG,OHH	A1	2-0-0 ^c	16	67,000	250	1,000
R-426A	zeotrope	R-125/134a/600a/601a (5.1/93.0/1.3/0.6)	CG,OHH	A1		5.2	20,000	83	990
R-427A	zeotrope	R-32/125/143a/134a (15.0/25.0/10.0/50.0)	CG,OHH	A1		18	76,000	280	1,000
R-428A	zeotrope	R-125/143a/290/600a (77.5/20.0/0.6/1.9)	CG,OHH	A1		23	83,000	370	1,000
R-429A	zeotrope	R-E170/152a/600a (60.0/10.0/30.0)	CG,F,OHH	A3		0.81	6,300	13	
R-430A	zeotrope	R-152a/600a76.0/24.0)	CG,F,OHH	A3		1.3	8,000	21	
R-431A	zeotrope	R-290/152a (71.0/29.0)	CG,F,OHH	A3		0.69	5,500	11	
R-432A	zeotrope	R-1270/E170 (80.0/20.0)	CG,F,OHH	A3		0.13	1,200	2.1	
R-433A	zeotrope	R-1270/290 (30.0/70.0)	CG,F,OHH	A3		0.34	3,100	5.5	
R-500e	azeotrope	R-12/152a (73.8/26.2)	CG,OHH	A1	2-0-0c	7.6	30,000	120	1,000
R-501 ^e	azeotrope	R-22/12 (75.0/25.0)	CG,OHH	A1		13	54,000	210	

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

Chemical Refrigerant	Formula	Chemical Name of Blend	Hazard Categories ^a	Refrigerant Classification	Degrees of Hazard ^b	[[M]] Amount Of Refrigerant Per Occupied Space			
						Pound per 1,000 cubic feet	ppm	g/m ³	OEL ^f TLV-TWA ^f (ppm)
R-502e	azeotrope	R-22/115 (48.8/51.2)	CG,OHH	A1	2-0-0c	21	73,000	330	1,000
R-503e	azeotrope	R-23/13 (40.1/59.9)	CG,OHH	A4	2-0-0c	15	67,000	240	1,000
R-504 ^e	azeotrope	R-32/115 (48.2/51.8)	CG,OHH				29	140,000	460
R-507A	azeotrope	R-125/143a (50/50)	CG,OHH	A1	2-0-0c	32	130,000	520	1,000
R-508A	azeotrope	R-23/116 (39/61)	CG,OHH	A1	2-0-0c	14	55,000	220	1,000
R-508B	azeotrope	R-23/116 (46/54)	CG,OHH	A1	2-0-0c	13	52,000	200	1,000
R-509A	zeotrope	R-22/218 (44/56)	CG,OHH	A1	2-0-0c	24	75,000	390	1,000
R-600	CH ₃ CH ₂ CH ₂ CH ₃	butane	CG,F,OHH	A3	1-4-0	—	—	—	800
R-600a	CH(CH ₃) ₂ -CH ₃	isobutane (2-methyl propane)	CG,F,OHH	A3	2-4-0	0.6	4000	9.6	800
R-601a	(CH ₃) ₂ CHCH ₂ CH ₃	isopentane	CG,F,OHH	A3		0.2	1000	2.9	600
R-717	NH ₃	ammonia	CG,C,F,OHH	B2	3-3-0 ^d	0.014	320	0.22	25
R-718	H ₂ O	water	—	A1	0-0-0	—	—	—	—
R-744	CO ₂	carbon dioxide	CG,OHH	A1	2-0-0 ^e	4.5	40,000	72	5,000
R-1150	CH ₂ =CH ₂	ethene (ethylene)	CG,F,OHH	A3	1-4-2	0.38	5,200	6.9	1,000
R-1270	CH ₃ CH=CH ₂	Propene (propylene)	CG,F,OHH	A3	1-4-1	0.1	1,000	1.7	660

For SI: 1 pound = 0.454 kg, 1 cubic foot = 0.0283 m³.

- a. CG = Compressed gas; C = Corrosive; F = Flammable; OHH = Other Health Hazard.
- b. Degrees of hazard are for health, fire, and reactivity, respectively, in accordance with NFPA 704.
- c. Reduction to 1-0-0 is allowed if analysis satisfactory to the code official shows that the maximum concentration for a rupture or full loss of refrigerant charge would not exceed the IDLH, considering both the refrigerant quantity and room volume.
- d. For installations that are entirely outdoors, use 3-1-0.
- e. Class I ozone depleting substance; prohibited for new installations.
- f. Occupational Exposure Limit based on the OSHA PEL, ACGIH TLV-TWA, the AIHA WEEL or consistent value on a time-weighted average (TWA) basis (unless noted C for ceiling) for an 8 hr/d and 40 hr/wk.

Reason: This proposal will update Table 1103.1 to be consistent with ASHRAE Standard 34-2007, and add new refrigerants for which ASHRAE Standard 34-2007 has given a designation and safety classification.

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

Analysis: The new language added to the title of the table appears to be an attribution statement. This is normally found in the commentary.

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

[F]Table 1103.1 (Supp)
REFRIGERANT CLASSIFICATION, AMOUNT AND TLV-TWA-OEL
~~as approved by the American Society of Heating Refrigerating and~~
~~Air-Conditioning Engineers and Revised 2004~~

(No change to proposed table or footnotes.)

Committee Reason: This code change updates Table 1103.1 to be consistent with ASHRAE 34 and to add new refrigerants. The modification revises the title of the table to reflect the change from TLV-TWA to OEL and deletes the ASHRAE approval statement below the title because the language is more appropriate for the Commentary rather than in the code. The term "as approved" has connotations that could cause conflicts with the code official's authority of approval.

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 Ferguson, representing ASHRAE, requests Approval as Modified by this Public Comment.

Further modify proposal as follows:

[F]TABLE 1103.1
REFRIGERANT CLASSIFICATION, Amount and OEL

Chemical Refrigerant	Formula	Chemical Name of Blend	Refrigerant Classification	Degrees of Hazard ^a	[[M]] Amount Of Refrigerant Per Occupied Space			
					Pound per 1,000 cubic feet	ppm	g/m ³	OEL ^e
R-11 ^d	CCl ₃ F	trichlorofluoromethane	A1	2-0-0 ^b	0.39	1,100	6.2	C1,000
R-12 ^d	CCl ₂ F ₂	dichlorodifluoromethane	A1	2-0-0 ^b	5.6	18,000	90	1,000
R-13 ^d	CClF ₃	chlorotrifluoromethane	A1	2-0-0 ^b				1,000
R-13B1 ^d	CBrF ₃	bromotrifluoromethane	A1	2-0-0 ^b				1,000
R-14	CF ₄	tetrafluoromethane (carbon tetrafluoride)	A1	2-0-0 ^b	25	110,000	400	1,000
R-22	CHClF ₂	chlorodifluoromethane	A1	2-0-0 ^b	13	59,000	210	1,000
R-23	CHF ₃	trifluoromethane (fluoroform)	A1	2-0-0 ^b	7.3	41,000	120	1,000
R-32	CH ₂ F ₂	difluoromethane (methylene fluoride)	A2		4.8	36,000	77	1,000
R-113 ^d	CCl ₂ FCClF ₂	1, 1,2-trichloro-1,2,2-trifluoroethane	A1	2-0-0 ^b	1.2	2,600	20	1,000
R-114 ^d	CClF ₂ CClF ₂	1,2-dichloro-1,2,2-tetrafluoroethane	A1	2-0-0 ^b	8.7	20,000	140	1,000
R-115	CClF ₂ CF ₃	chloropentafluoroethane	A1		47	120,000	760	1,000
R-116	CF ₃ CF ₃	hexafluoroethane	A1	1-0-0	34	97,000	550	1,000
R-123	CHCl ₂ CF ₃	2,2-dichloro-1,1,1-trifluoroethane	B1	2-0-0 ^b	3.5	9,100	57	50
R-124	CHClFCF ₃	2-chloro-1,1,1,2-tetrafluoroethane	A1	2-0-0 ^b	3.5	10,000	56	1,000
R-125	CHF ₂ CF ₃	pentafluoroethane	A1	2-0-0 ^b	23	75,000	370	1,000
R-134a	CH ₂ FCF ₃	1,1,1,2-tetrafluoroethane	A1	2-0-0 ^b	13	50,000	210	1,000
R-141b	CH ₃ CCl ₂ F	1,1-dichloro-1-fluoroethane			0.78	2,600	12	<u>500</u>
R-142b	CH ₃ CClF ₂	1-chloro-1,1-difluoroethane	A2		5.1	20,000	83	1,000
R-143a	CH ₃ CF ₃	1,1,1-trifluoroethane	A2	2-0-0 ^b	4.5	21,000	70	1,000
R-152a	CH ₃ CHF ₂	1,1-difluoroethane	A2	1-4-0	2	12,000	32	1,000
R-170	CH ₃ CH ₃	ethane	A3	2-4-0	0.54	7,000	8.7	1,000
R-E170	CH ₃ OCH ₃	dimethyl ether	A3		1	8,500	16	1,000
R-218	CF ₃ CF ₂ CF ₃	octafluoropropane	A1	2-0-0 ^b	43	90,000	690	1,000
R-227ea	CF ₃ CHFCF ₃	1,1,1,2,3,3,3-heptafluoropropane	A1		36	84,000	580	1,000
R-236fa	CF ₃ CH ₂ CF ₃	1,1,1,3,3,3-hexafluoropropane	A1	2-0-0 ^b	21	55,000	340	1,000
R-245fa	CHF ₂ CH ₂ CF ₃	1,1,1,3,3-pentafluoropropane	B1	2-0-0 ^b	12	34,000	190	300
R-290	CH ₃ CH ₂ CH ₃	propane	A3	2-4-0	0.56	5,300	9.5	<u>2,500</u> <u>1,000</u>
R-C318	-(CF ₂) ₄ -	octafluorocyclobutane	A1		41	80,000	660	1,000
R-400 ^d	zeotrope	R-12/114 (50/50)	A1	2-0-0 ^b	10	28,000	160	<u>1,000</u>
R-400 ^d	zeotrope	R-12/114 (60/40)	A1		11	30,000	170	<u>1,000</u>
R-401A	zeotrope	R-22/152a/124 (53/13/34)	A1	2-0-0 ^b	6.6	27,000	110	1,000
R-401B	zeotrope	R-22/152a/124 (61/11/28)	A1	2-0-0 ^b	7.2	30,000	120	1,000
R-401C	zeotrope	R-22/152a/124 (33/15/52)	A1	2-0-0 ^b	5.2	20,000	84	<u>1,000</u>
R-402A	zeotrope	R-125/290/22 (60/2/38)	A1	2-0-0 ^b	8.5	33,000	140	1,000
R-402B	zeotrope	R-125/290/22 (38/2/60)	A1	2-0-0 ^b	15	63,000	240	1,000
R-403A	zeotrope	R-290/22/218 (5/75/20)	A1	2-0-0 ^b	7.6	33,000	120	1,000
R-403B	zeotrope	R-290/22/218 (5/56/39)	A1	2-0-0 ^b	18	70,000	290	1,000
R-404A	zeotrope	R-125/143a/134a (44/52/4)	A1	2-0-0 ^b	31	130,000	500	1,000
R-405A	zeotrope	R-22/152a/142b/C318 (45.0/7.0/5.5/2.5)			16	57,000	260	1,000
R-406A	zeotrope	R-22/600a/142b (55/4/41)	A2		4.7	21,000	25	1,000
R-407A	zeotrope	R-32/125/134a (20/40/40)	A1	2-0-0 ^b	18	78,000	290	1,000
R-407B	zeotrope	R-32/125/134a (10/70/20)	A1	2-0-0 ^b	20	77,000	320	1,000
R-407C	zeotrope	R-32/125/134a (23/25/52)	A1	2-0-0 ^b	17	76,000	270	1,000
R-407D	zeotrope	R-32/125/134a (15/15/70)	A1	2-0-0 ^b	15	65,000	240	1,000
R-407E	zeotrope	R-32/125/134a (25/15/60)	A1	2-0-0 ^b	16	75,000	260	1,000
R-408A	zeotrope	R-125/143a/22 (7/46/47)	A1	2-0-0 ^b	21	95,000	340	1,000
R-409A	zeotrope	R-22/124/142b (60/25/15)	A1	2-0-0 ^b	7.1	29,000	110	1,000
R-409B	zeotrope	R-22/124/142b (65/25/10)	A1	2-0-0 ^b	7.3	30,000	120	<u>1,000</u>
R-410A	zeotrope	R-32/125 (50/50)	A1	2-0-0 ^b	25	130,000	390	1,000
R-410B	zeotrope	R-32/125 (45/55)	A1	2-0-0 ^b	24	130,000	390	<u>1,000</u>
R-411A	zeotrope	R-127/22/152a (1.5/87.5/11.0)	A2		2.9	14,000	46	<u>4,000</u> <u>990</u>
R-411B	zeotrope	R-1270/22/152a (3/94/3)	A2		2.8	13,000	45	<u>4,000</u> <u>980</u>

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

R-412A	zeotrope	R-22/318/142b (70/5/25)	A2		5.1	22,000	82	1,000
R-413A	zeotrope	R-218/134a/600a (9/88/3)	A2		5.8	22,000	94	<u>1,000</u>
R-414A	zeotrope	R-22/124/600a/142b (51/28.5/4/16.5)	A1		6.4	26,000	100	1,000
R-414B	zeotrope	R-22/124/600a/142b (50/39/1.5/9.5)	A1		6	23,000	95	<u>1,000</u>
R-415A	zeotrope	R-22/152a (82.0/18.0)	A2		12	57,000	190	<u>1,000</u>
R-415B	zeotrope	R-22/152a (25.0/75.0)	A2		9.3	52,000	120	1,000
R-416A	zeotrope	R-134a/124/600 (59/39.5/1.5)	A1	2-0-0 ^b	3.9	14,000	62	<u>1,000</u>
R-417A	zeotrope	R-125/134a/600	A1	2-0-0 ^b	3.5	13,000	56	1,000
R-418A	zeotrope	R-290/22/152a (1.5/96.0/2.5)	A2		13	59,000	200	<u>1,000</u>
R-419A	zeotrope	R-125/134a/E170 (77.0/19.0/4.0)	A2		19	70,000	310	<u>1,000</u>
R-420A	zeotrope	R-134a/142b (88.0/12.0)	A1	2-0-0 ^b	12	45,000	190	1,000
R-421A	zeotrope	R-125/134a(58.0/42.0)	A1	2-0-0 ^b	17	61,000	280	1,000
R-421B	zeotrope	R-125/134a (85.0/15.0)	A1	2-0-0 ^b	21	69,000	330	1,000
R-422A	zeotrope	R-125/134a/600a (85.1/11.5/3.4)	A1	2-0-0 ^b	18	63,000	290	1,000
R-422B	zeotrope	R-125/134a/600a (55.0/42.0/3.0)	A1	2-0-0 ^b	16	26,000	250	1,000
R-422C	zeotrope	R-125/134a/600a (82.0/15.0/3.0)	A1	2-0-0 ^b	18	62,000	290	1,000
R-422D	zeotrope	R-125/134a/600a (65.1/31.5/3.4)	A1	2-0-0 ^b	16	58,000	260	1,000
R-423A	zeotrope	R-134a/227ea (52.5/47.5)	<u>A1</u>	2-0-0 ^c	19	59,000	310	1,000
R-424A	zeotrope	R-125/134a/600a/600/601a (50.5/47.0/1.0/0.6)	A1	2-0-0 ^b	6.2	23,000	100	4,000 <u>970</u>
R-425A	zeotrope	R-32/134a/227ea (18.5/69.5/12.0)	A1	2-0-0 ^b	16	67,000	250	1,000
R-426A	zeotrope	R-125/134a/600a/601a (5.1/93.0/1.3/0.6)	A1		5.2	20,000	83	990
R-427A	zeotrope	R-32/125/143a/134a (15.0/25.0/10.0/50.0)	A1		18	76,000	280	1,000
R-428A	zeotrope	R-125/143a/290/600a (77.5/20.0/0.6/1.9)	A1		23	83,000	370	1,000
R-429A	zeotrope	R-E170/152a/600a (60.0/10.0/30.0)	A3		0.81	6,300	13	<u>1,000</u>
R-430A	zeotrope	R-152a/600a/76.0/24.0)	A3		1.3	8,000	21	<u>1,000</u>
R-431A	zeotrope	R-290/152a (71.0/29.0)	A3		0.69	5,500	11	<u>1,000</u>
R-432A	zeotrope	R-1270/E170 (80.0/20.0)	A3		0.13	1,200	2.1	<u>710</u>
R-433A	zeotrope	R-1270/290 (30.0/70.0)	A3		0.34	3,100	5.5	<u>880</u>
<u>R-434A</u>	<u>zeotrope</u>	<u>R-125/143a/600a (63.2/18.0/16.0/2.8)</u>	<u>A1</u>		<u>20</u>	<u>73,000</u>	<u>320</u>	<u>1,000</u>
<u>R-435A</u>	<u>zeotrope</u>	<u>R-E170/152a (80.0/20.0)</u>	<u>A3</u>		<u>1.1</u>	<u>8,500</u>	<u>17</u>	<u>1,000</u>
<u>R-436A</u>	<u>zeotrope</u>	<u>R-290/600a (56.0/44.0)</u>	<u>A3</u>		<u>0.5</u>	<u>4,000</u>	<u>8</u>	<u>1,000</u>
<u>R-436B</u>	<u>zeotrope</u>	<u>R-290/600a (52.0/48.0)</u>	<u>A3</u>		<u>0.5</u>	<u>4,000</u>	<u>8</u>	<u>1,000</u>
R-437A	zeotrope	R-125/134a/600/601 (19.5/78.5/1.4/0.6)	<u>A1</u>		<u>5</u>	<u>19,000</u>	<u>81</u>	<u>990</u>
R-500 ^s	azeotrope	R-12/152a (73.8/26.2)	A1	2-0-0 ^b	7.6	30,000	120	1,000
R-501 ^d	azeotrope	R-22/12 (75.0/25.0)	A1		13	54,000	210	<u>1,000</u>
R-502 ^s	azeotrope	R-22/115 (48.8/51.2)	A1	2-0-0 ^b	21	73,000	330	1,000
R-503e	azeotrope	R-23/13 (40.1/59.9)		2-0-0 ^b	45	67,000	240	1,000
R-504 ^d	azeotrope	R-32/115 (48.2/51.8)			29	140,000	460	1,000
R-507A	azeotrope	R-125/143a (50/50)	A1	2-0-0 ^b	32	130,000	520	1,000
R-508A	azeotrope	R-23/116 (39/61)	A1	2-0-0 ^b	14	55,000	220	1,000
R-508B	azeotrope	R-23/116 (46/54)	A1	2-0-0 ^b	13	52,000	200	1,000
R-509A	azeotrope	R-22/218 (44/56)	A1	2-0-0 ^b	24	75,000	390	1,000
<u>R-510A</u>	<u>azeotrope</u>	<u>R-E170/600a (88.0/12.0)</u>	<u>A3</u>		<u>0.87</u>	<u>7,300</u>	<u>14</u>	<u>1,000</u>
R-600	CH ₃ CH ₂ CH ₂ CH ₃	butane	A3	1-4-0	<u>0.1</u>	<u>1,000</u>	<u>2.4</u>	<u>800 1,000</u>
R-600a	CH(CH ₃) ₂ -CH ₃	isobutane (2-methyl propane)	A3	2-4-0	0.6	4,000	9.6	800
R-601a	(CH ₃) ₂ CHCH ₂ CH ₃	isopentane	A3		0.2	1,000	2.9	600
R-717	NH ₃	ammonia	B2	3-3-0 ^c	0.014	320	0.22	25
R-718	H ₂ O	water	A1	0-0-0				
R-744	CO ₂	carbon dioxide	A1	2-0-0 ^b	4.5	40,000	72	5,000
R-1150	CH ₂ =CH ₂	ethene (ethylene)	A3	1-4-2				4,000 <u>200</u>
R-1270	CH ₃ CH=CH ₂	Propene (propylene)	A3	1-4-1	0.1	1,000	1.7	660 <u>500</u>

For SI: 1 pound = 0.454 kg, 1 cubic foot = 0.0283 m³.

- Degrees of hazard are for health, fire, and reactivity, respectively, in accordance with NFPA 704.
- Reduction to 1-0-0 is allowed if analysis satisfactory to the code official shows that the maximum concentration for a rupture or full loss of refrigerant charge would not exceed the IDLH, considering both the refrigerant quantity and room volume.
- For installations that are entirely outdoors, use 3-1-0.
- Class I ozone depleting substance; prohibited for new installations.
- Occupational Exposure Limit based on the OSHA PEL, ACGIH TLV-TWA, the AIHA WEEL or consistent value on a time-weighted average (TWA) basis (unless noted C for ceiling) for an 8 hr/d and 40 hr/wk.

Commenter's Reason: ASHRAE continually tries to keep the refrigerant information in Table 1103.1 consistent with the requirements in ASHRAE Standard 34. Since we submitted our proposal last fall, 8 new refrigerants have been approved and published as part of Standard 34. In addition, the classifications for four other refrigerants have changed. The proposed changes in this table reflect these updates to Standard 34, and would bring the IMC in line with the Standard.

Final Hearing Results

M93-07/08

AMPC

Code Change No: M94-07/08

Original Proposal

Table 1103.1

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing the International Institute of Ammonia Refrigeration

THIS PROPOSAL IS ON THE AGENDA OF THE IFC CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

Revise table as follows:

Delete column "Hazard Categories" and Footnote "a":

[F] TABLE 1103.1
REFRIGERANT CLASSIFICATION, AMOUNT AND TLV-TWA

Refrigerant	Chemical Formula	Chemical Name or Blend	Hazard Categories	Refrigerant Classification	Degrees of Hazard	Pounds per 1000 cubic feet	ppm	g/m3	TLV-TWA (ppm)
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For SI: 1 pound = 0.454 kg, 1 cubic foot = 0.0283 m3.

a. CG = Compressed gas; C = Corrosive; F = Flammable; OHH = Other Health Hazard.

(Renumber subsequent footnotes)

(Portions of table and footnotes not shown remain unchanged)

Reason: The classifications provided in the "hazard categories" column of the table are of no value from a code application or enforcement perspective and should be deleted. All of the listed refrigerants, with the exception of water, are compressed gases, which is common knowledge, and all are shown as "other health hazard." The classification category "other health hazard," which appeared in earlier editions of the model fire and building codes, wasn't carried forward into the ICC codes, except here. Therefore, it is of no value.

With respect to the "corrosive" classification, there are no regulations for corrosive refrigerants in the IMC, and with respect to the "flammable" classification, the IMC regulates flammability based on refrigerant classifications under ASHRAE 34.

Leaving these classifications in the table unnecessarily creates questions and confusion in the minds of code users regarding why this information has been provided, so it would be best to simply delete it.

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

Public Hearing Results

This proposal was heard by the IFC Code Development Committee.

Committee Action:

Approved as Submitted

Committee Reason: The committee agreed that the proponent's reason statement accurately substantiates the need for the change.

Assembly Action:

None

Final Hearing Results

M94-07/08

AS

Code Change No: **M95-07/08**

Original Proposal

Section: 1104.2.2

Proponent: Jeffrey M. Shapiro, PE, International Code Consultants, representing the International Institute of Ammonia Refrigeration

Revise as follows:

1104.2.2 Industrial occupancies and refrigerated rooms. This section applies only to industrial occupancies and refrigerated rooms for manufacturing, food and beverage preparation, meat cutting, other processes and storage. Machinery rooms are not required where all of the following conditions are met:

1. The space containing the machinery is separated from other occupancies by tight construction with tight-fitting doors.
2. Access is restricted to authorized personnel.
3. The floor area per occupant is not less than 100 square feet (9.3 m2) where machinery is located on floor levels with exits more than 6.6 feet (2012 mm) above the ground. Where provided with egress directly to the outdoors or into approved building exits, the minimum floor area shall not apply.
4. Refrigerant detectors are installed as required for machinery rooms in accordance with Section 1105.3.
5. Surfaces having temperatures exceeding 800°F (427°C) and open flames are not present where any Group A2, B2, A3 or B3 refrigerant is used (see Section 1104.3.4).
6. All electrical equipment and appliances conform to Class 1, Division 2, hazardous location classification requirements of NFPA 70 where the quantity of any Group A2, B2, A3 or B3 refrigerant, other than ammonia, in a single independent circuit would exceed 25 percent of the lower flammability limit (LFL) upon release to the space.
7. All refrigerant-containing parts in systems exceeding 100 hp (74.6 kW) drive power, except evaporators used for refrigeration or dehumidification; condensers used for heating; control and pressure relief valves for either; and connecting piping, shall be located either outdoors or in a machinery room.

Reason: Consistency with ASHRAE 15, Section 7.2.2, Item 6. The IMC recognizes ASHRAE 15 as the industry standard for refrigeration safety, and although there are some cases where the code deliberately differs from the standard, this is not one of those cases.

Research into the history of this section revealed that the current text of Item 6 was inserted into the IMC in 1998 based on changes processed in 1996. Code Change Proposal M147-96 was submitted by the Air-Conditioning and Refrigeration Institute as a general clean-up of provisions that had been derived from ASHRAE 15, and no technical basis was offered for any consequential change to the provisions. The stated reason for this code change was:

“These changes will relocate mandatory provisions from notes in tables to code text and reorganize affected provisions into a more logical sequence, to facilitate understanding and use. Although no effort was made to preserve the structure of either the “table notes” from Tables 1103 and 1104(1) of the IMC or the “rule” approach from Standard 15 (on which the notes were based), the revision preserves the essence of these requirements. The following tables summarize the relocations by provision...”

In the table that followed, there was no entry for Section 1104.2.2 (the section being questioned here) to indicate where the source text was derived from. Thereby, there was no justification for making any change beyond coordination with ASHRAE 15. It is also interesting to note that in the staff analysis for this proposal, there was a specific statement indicating that staff did not evaluate the technical accuracy of the proposal.

Accordingly, because ASHRAE 15 excludes ammonia from the requirement for classified electrical equipment, recognizing that ammonia has a low propensity for ignition, there is no apparent reason for the IMC to take a different stance. Approval of this proposal will achieve coordination between the IMC and ASHRAE 15.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Ammonia has a low propensity for ignition and should not be included in this list of refrigerants. This will provide coordination between the IMC and ASHRAE 15.

Assembly Action:

None

Final Hearing Results

M95-07/08

AS

Code Change No: **M98-07/08**

Original Proposal

Sections: 1107.2 (New), 1107.2.1 (New), 1107.2.2 (New)

Proponent: Guy McMann, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Add new text as follows:

1107.2 Piping location. Refrigerant piping that crosses an open space that affords passageway in any building shall be not less than 7.25 feet (2.2 m) above the floor unless the piping is located against the ceiling of such space. Refrigerant piping shall not be placed in any elevator, dumbwaiter, or other shaft containing a moving object or in any shaft that has openings to living quarters or to means of egress. Refrigerant piping shall not be installed in an enclosed public stairway, stair landing or means of egress.

1107.2.1 Piping in concrete floors. Refrigerant piping installed in concrete floors shall be encased in pipe ducts. The piping shall be isolated and supported to prevent damaging vibration, stress and corrosion.

1107.2.2 Refrigerant penetrations. Refrigerant piping shall not penetrate floors, ceilings or roofs.

Exceptions:

1. Penetrations connecting the basement and the first floor
2. Penetrations connecting the top floor and a machinery penthouse or roof installation.
3. Penetrations connecting adjacent floors served by the refrigeration system
4. Penetrations by piping in a direct system where the refrigerant quantity does not exceed Table 1103.1 for the smallest occupied space through which the piping passes.
5. In other than industrial occupancies and where the refrigerant quantity exceeds Table 1103.1 for the smallest space, penetrations for piping that connects separate pieces of equipment that are either:
 - 5.1. Enclosed be an approved gas-tight, fire resistive duct or shaft with openings to those floors served by the refrigeration system or
 - 5.2. Located on the exterior of the building where vented to the outdoors or to the space served by the system and not used as an air shaft, closed court or similar space.

(Renumber subsequent sections)

Reason: Chapter 11 is incomplete as it relates to all the requirements for piping location, found in ASHRAE-15. These are some of the more important requirements that will aid inspectors and plan reviewers when utilizing only the IMC. There are no new requirements here, just further guidance extracted from the standard.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change adds needed guidance on the location of refrigerant piping and penetration of floors, ceilings and roofs by refrigerant piping. This language was extracted from ASHRAE 15 and added to make the code more user friendly.

Assembly Action:

None

Final Hearing Results

M98-07/08

AS

Code Change No: M99-07/08

Original Proposal

Section: 1201.2

Proponent: Mark Riley, City of Troy, MI, representing the Mechanical Inspectors of Michigan

Revise as follows:

1201.2 Pipe Sizing. Piping ~~for~~ and piping system components for hydronic systems shall be sized for the demand of the system.

Reason: There is more to properly sizing a hydronic system than just sizing hydronic pipe. Pumps, coils, valves, and other appurtances must be correctly sized for the proper operation of the system. Failure to do so could also result equipment malfunction and damages.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change adds a reminder for the designer and code official that other items such as pumps, coils and valves need to be considered when sizing a hydronic system.

Assembly Action:

None

Final Hearing Results

M99-07/08

AS

Code Change No: M100-07/08

Original Proposal

Section: 1201.2 (New), Chapter 15 (New)

Proponent: Walter J. Sperko, PE, Sperko Engineering, representing himself

1. Add new text as follows:

1201.2 Standards. As an alternative to the provisions of Sections 1202 and 1203, piping shall be designed, installed, inspected and tested in accordance with ASME B31.9. Where ASME B31.9 is followed, materials listed in Section 1202 shall be permitted to be used, and Sections 1203.1, 1203.2 and 1203.15 shall apply.

(Renumber subsequent sections)

2. Add standard to Chapter 15 as follows:

ASME

B31.9-04 Building Services Piping

Reason: To incorporate ASME B31.9, *Building Services Piping*, into the IMC for hydronic piping.

ASME B31.9 is a recognized international standard for hydronic piping that was written specifically to provide a simplified piping code for use in design and installation of safe building services piping.

ASME B31.9 was first published in 1982 for the purpose of providing a thorough and comprehensive Code covering materials, design, installation, examination and testing for heating and air conditioning piping typically found in industrial, institutional, commercial, and public buildings, and in multi-unit residences. It was written because other long-established piping codes such as ASME B31.1, *Power Piping*, and B31.3, *Process Piping*, were too complex and expensive to follow for the lower temperatures and pressures and comparatively benign fluids used in buildings. B31.9 is intended to be applied to piping for water and anti-freeze solutions for heating and cooling, steam and steam condensate, air, liquids and other nontoxic, nonflammable fluids contained in piping not exceeding the following:

- Dimensional limits
 - Carbon steel: NPS 30 (DN 750) and 0.500 inches (12.7 mm) wall
 - Stainless steel: NPS 12 (DN 300) and 0.500 inches (12.7 mm) wall
 - Aluminum: NPS 12 (DN 300)
 - Brass and copper NPS 12 (DN 300), 12.125 in (308 mm) for copper tube.
 - Thermoplastics: NPS 24 (DN 600)
 - Ductile Iron: NPS 18 (DN 450)
 - Reinforced Thermosetting Resin: NPS 24 (DN 600)
- Pressure and temperature limits
 - Compressed air, steam and steam condensate to 1035 kPa (150 psi) gage
 - Steam and steam condensate from ambient to 186°C (366°F)
 - Other gases from ambient to -18 to 93°C (0 to 200°F)
 - Liquids to 2415 kPa (350 psi) gage and from -18 to 121°C (0 to 250°F)
 - Vacuum to 1 Bar (14.7 psi).

Cost Impact: Reduced. Most designers of larger facilities specify ASME B31.1, *Power Piping*, rather than B31.9, *Building Services Piping* making the cost of piping unnecessarily expensive.

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 ASME B31.9-04 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Modified

Modify proposal as follows:

1201.2 Standards. As an alternative to the provisions of Sections 1202 and 1203, piping shall be designed, installed, inspected and tested in accordance with ASME B31.9. ~~Where ASME B31.9 is followed, materials listed in Section 1202 shall be permitted to be used, and Sections 1203.1, 1203.2 and 1203.15 shall apply.~~

(Portions of proposal not shown remain unchanged.)

Committee Reason: This code change adds an alternative method of designing hydronic systems. The modification deleted the second sentence because of it was unclear how ASME B31.9 would be used with the sections listed in that sentence and why those were the only sections mentioned.

Assembly Action:

None

Final Hearing Results

M100-07/08

AM

Code Change No: **M102-07/08**

Original Proposal

Sections 1203.15.1, 1203.15.3, Chapter 15 (New)

Proponent: Walter J. Sperko, PE, Sperko Engineering Services, Inc., representing himself

1. Revise as follows:

1203.15.1 Heat-fusion joints. Joints shall be of the socket-fusion, saddle-fusion or butt-fusion type, ~~fabricated~~ joined in accordance with ASTM D2657. Joint surfaces shall be clean and free of moisture. Joint surfaces shall be heated to melt temperatures and joined. The joint shall be undisturbed until cool. Fittings shall be manufactured in accordance with ASTM D 2683 or ASTM D3261.

1203.15.3 Stab-type insert fittings. Joint surfaces shall be clean and free of moisture. Pipe ends shall be chamfered and inserted into the fittings to full depth. Fittings shall be manufactured in accordance with ~~ASTM-D-2513~~ ASTM F1924.

2. Add standards to Chapter 15 as follows:

ASTM

- D2657-07 Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings
- D3261-03 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
- F1924-05 Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing

Reason: To update and correct specifications referenced for polyethylene piping used for ground source heat pump loops systems. References are incorrect or inadequate.

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 standards ASTM D 2657-07, D3261-03 and F1924-05 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action:

Approved as Submitted

Committee Reason: This code change adds the standards that should be used for joining polyethylene piping used in ground source heat pump loop systems.

Assembly Action:

None

Final Hearing Results

M102-07/08

AS

Code Change No: M103-07/08

Original Proposal

Table 1202.4, Sections 1203.17 (New), 1203.17.1 (New), 1203.17.2 (New), Chapter 15 (New); IRC Table M2101.1, M2104.3 (New), M2104.3.1 (New), M2104.3.2 (New), Chapter 43 (New)

Proponent: Larry Gill, IPEX USA LLC

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

1. Revise as follows:

**TABLE 1202.4 (Supp)
HYDRONIC PIPE**

MATERIAL	STANDARD (see chapter 15)
Raised Temperature Polyethylene (PE-RT)	<u>ASTM F2623</u>

(Portions of table not shown remain unchanged)

2. Add new text as follows:

1203.17 Raised temperature polyethylene (PE-RT) plastic tubing. Joints between raised temperature polyethylene tubing and fittings shall conform to Sections 1203.17.1 and 1203.17.2. Mechanical joints shall conform to Section 1203.3.

1203.17.1 Compression-type fittings. Where compression type fittings include inserts and ferrules or O-rings, the fittings shall be installed without omitting the inserts and ferrules or O-rings.

1203.17.2 PE-RT-to-metal connections. Solder joints in a metal pipe shall not occur within 18 inches (457 mm) of a transition from such metal pipe to PE-RT pipe.

Add standard to Chapter 15 as follows:**ASTM**

F 2623-07 Standard Specification for Polyethylene of Raised Temperature (PE-RT) SDR 9 Tubing¹

PART II – IRC-M**1. Revise as follows:**

**TABLE M2101.1
HYDRONIC PIPING MATERIALS**

MATERIAL	USE CODE ^a	STANDARD ^b	JOINTS	NOTES
Raised Temperature Polyethylene (PE-RT)	1, 2, 3	ASTM F2623	Copper crimp/insert fitting stainless steel clamp, insert fittings	---

(Portions of table and footnotes not shown remain unchanged)

2. Add new text as follows:

M2104.3 Raised temperature polyethylene (PE-RT) plastic tubing. Joints between raised temperature polyethylene tubing and fittings shall conform to Sections M2104.3.1 and M2104.3.2. Mechanical joints shall be installed in accordance with the manufacturer's instructions.

M2104.3.1 Compression-type fittings. Where compression type fittings include inserts and ferrules or O-rings, the fittings shall be installed without omitting the inserts and ferrules or O-rings.

M2104.3.2 PE-RT-to-metal connections. Solder joints in a metal pipe shall not occur within 18 inches (457 mm) of a transition from such metal pipe to PE-RT pipe.

3. Add standard to Chapter 43 as follows:**ASTM**

F 2623-07 Standard Specification for Polyethylene of Raised Temperature (PE-RT) SDR 9 Tubing¹

Reason: This change will add a product which is suitable for the application and has an approved ASTM standard.

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 ASTM F2623-07 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

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

Committee Reason: This code change adds a new piping material for hydronic systems that is supported by an approved standard.

Assembly Action:**None**

PART II – IRC-M

Committee Action:

Approved as Submitted

Committee Reason: This code change adds a new piping material for hydronic systems that is supported by an approved standard.

Assembly Action:

None

Final Hearing Results

M103-07/08, Part I	AS
M103-07/08, Part II	AS

Code Change No: M104-07/08

Original Proposal

Table 1202.4, Sections 1203.17 (New), 1203.17.1 (New), 1203.17.2 (New), Chapter 15 (New); IRC Table M2101.1, M2104.3 (New), M2104.3.1 (New), M2104.3.2 (New), Chapter 43 (New)

Proponent: Larry Gill, IPEX USA LLC

THESE PROPOSALS ARE ON THE AGENDA OF THE IMC AND THE IRC MECHANICAL CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IMC

1. Revise as follows:

**TABLE 1202.4 (Supp)
HYDRONIC PIPE**

MATERIAL	STANDARD (see chapter 15)
Polyethylene/Aluminum/Polyethylene (PE-AL-PE) pressure pipe	ASTM F1282; CSA B137.9

(Portions of table not shown do not change)

2. Add new text as follows:

1203.17 Polyethylene/Aluminum/Polyethylene (PE-AL-PE) pressure pipe. Joints between Polyethylene/Aluminum/Polyethylene pressure pipe and fittings shall conform to sections 1203.17.1 and 1203.17.2. Mechanical joints shall comply with Section 1203.3.

1203.17.1 Compression-type fittings. Where compression type fittings include inserts and ferrules or O-rings, the fittings shall be installed without omitting the inserts and ferrules or O-rings.

1203.17.2 PE-AL-PE to metal connections. Solder joints in a metal pipe shall not occur within 18 inches (457 mm) of a transition from such metal pipe to PE-AL-PE pipe.

Add standards to Chapter 15 as follows:

ASTM

F 1282-06 Standard Specification for Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe

CSA

B137.9-M91 Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure-Pipe Systems

PART II – IRC-M**1. Revise as follows:**

**TABLE M2101.1
HYDRONIC PIPING MATERIALS**

MATERIAL	USE CODE^a	STANDARD^b	JOINTS	NOTES
Polyethylene/Aluminum/Polyethylene (PE-AL-PE) pressure pipe	1, 2, 3	ASTM F1282; CSA B137.9	Mechanical, crimp/insert	---

(Portions of table and footnotes not shown remain unchanged)

2. Add new text as follows:

M2104.3 Polyethylene/Aluminum/Polyethylene (PE-AL-PE) pressure pipe. Joints between Polyethylene/Aluminum/Polyethylene pressure pipe and fittings shall conform to M2104.3.1 and M2104.3.2. Mechanical joints shall be installed in accordance with the manufacturer's instructions.

M2104.3.1 Compression-type fittings. Where compression type fittings include inserts and ferrules or O-rings, the fittings shall be installed without omitting the inserts and ferrules or O-rings.

M2104.3.2 PE-AL-PE to metal connections. Solder joints in a metal pipe shall not occur within 18 inches (457 mm) of a transition from such metal pipe to PE-AL-PE pipe.

3. Add standards to Chapter 43 as follows:**ASTM**

F 1282-06 Standard Specification for Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe

CSA

B137.9-M91 Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure-Pipe Systems

Reason: This change will add a product which is suitable for the application and has approved ASTM and CSA standards.

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 standards ASTM F 1282-06 and CSA B137.2-M91 indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

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

Committee Reason: This code change adds a new piping material for hydronic systems that is supported by an approved standard.

Assembly Action:**None****PART II – IRC-M****Committee Action:****Approved as Submitted**

Committee Reason: This code change adds a new piping material for hydronic systems that is supported by an approved standard.

Assembly Action:**None**

Final Hearing Results

M104-07/08, Part I**AS****M104-07/08, Part II****AS**

Code Change No: **M105-07/08**

Original Proposal

Sections: 1203.17 (New), 1203.17.1 (New), 1203.17.2 (New)

Proponent: Larry Gill, IPEX USA LLC

Add new text as follows:

1203.17 Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pressure pipe. Joints between cross-linked polyethylene/aluminum/cross-linked polyethylene pressure pipe and fittings shall conform to sections 1203.17.1 and 1203.17.2. Mechanical joints shall comply with Section 1203.3.

1203.17.1 Compression-type fittings. Where compression type fittings include inserts and ferrules or O-rings, the fittings shall be installed without omitting the inserts and ferrules or O-rings.

1203.17.2 PEX-AL-PEX to metal connections. Solder joints in a metal pipe shall not occur within 18 inches (457 mm) of a transition from such metal pipe to PEX-AL-PEX pipe.

Reason: This change will add specific guidelines for the installation of a PEX-AL-PEX product which is already listed in Table 1202.4.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: This code change adds needed guidance for joining PEX-AL-PEX piping used in hydronic systems.

Assembly Action:

None

Final Hearing Results

M105-07/08

AS

Code Change No: M106-07/08

Original Proposal

Chapter 15

Proponent: Standards Writing Organization

Revise standards as follows:

ASME

American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

Standard
reference
number

Title

B16.5—~~2003~~ 4996 Pipe Flanges and Flanged Fittings NPS ½ through NPS 24—~~With B16.5a-1998 Addenda~~

CSD-1— ~~2004~~ 2002 Controls and Safety Devices for Automatically Fired Boilers

ASTM

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Standard
reference
number

Title

A 106/A 106M-~~06a~~ 04b Specification for Seamless Carbon Steel Pipe for High-Temperature Service

A 420/A 420M-~~07~~ 05 Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service

D 1693-~~07~~ 05 Test Method for Environmental Stress-Cracking of Ethylene Plastics

D 2837—~~04e~~01 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products

D 2996— 01(~~2007~~)e01 Specification for Filament-wound Fiberglass (Glass Fiber Reinforced Thermosetting Resin) Pipe

D 3035—~~06~~ 03a Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

D 3350—~~06~~ 02a Specification for Polyethylene Plastics Pipe and Fittings Materials

F 1055—98(~~2006~~)e04 Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing Fittings

F 1476-(~~2006~~)04 Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications

IIAR

International Institute of Ammonia Refrigeration
1110 N. Glebe Road, Suite 250
Arlington, VA 22201

Standard
reference
number

Title

2—99 (with Addendum A-
2005) Addendum A to Equipment, Design, and Installation of Ammonia Mechanical Refrigerating Systems

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Standard
reference
number

Title

31— 06 04	Installation of Oil-burning Equipment
37— 06 02	Stationary Combustion Engines and Gas Turbines
91— <u>04</u> 99	Exhaust Systems for Air Conveying of Vapors, Gases, Mists and Noncombustible Particulate Solids
262— 07 02	Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-handling Spaces
853— <u>07</u> 03	Installation of Stationary Fuel Power Plants

SMACNA

Sheet Metal and Air Conditioning Contractors National Association, Inc.
4021 Lafayette Center Drive
Chantilly, VA 20151-1209

Standard
reference
number

Title

SMACNA/ <u>ANSI (2005)</u> 95	HVAC Duct Construction Standards-Metal and Flexible <u>(2005)</u>
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UL

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062

Standard
reference
number

Title

174-04	Household Electric Storage Tank Water Heaters—with Revisions through November 2005 <u>May 2006</u>
181A-2005	Closure Systems for Use with Rigid Air Ducts and Air Connectors
268A-98	Smoke Detectors for Duct Application—with Revisions through April 2003 <u>2006</u>
343—97	Pumps for Oil-Burning Appliances—with Revisions through May 2002 <u>2006</u>
391— 2006 95	Solid-fuel and Combination-fuel Central and Supplementary Furnaces—with Revisions through May 1999
412-2004	Refrigeration Unit Coolers <u>with Revisions through February 2007</u>
471- 1995 <u>2006</u>	Commercial Refrigerators and Freezers—with Revisions through February <u>March</u> 2006
508—99	Industrial Control Equipment <u>with Revisions through July 2005</u>
710— 95	Exhaust Hoods for Commercial Cooking Equipment—with Revisions through April 1999 <u>February 2007</u>
726-95	Oil-Fired Boiler Assemblies —with Revisions through February <u>March</u> 2006
727— 2006 98	Oil-fired Central Furnaces—with Revisions through January 1999
791— 2006 93	Residential Incinerators—with Revisions through May 1998
834-04	Heating, Water Supply, and Power Boilers-Electric- <u>with Revisions through March 2006</u>
858—05	Household Electric Ranges- <u>with Revisions through April 2006</u>
875—04	Electric Day Bath Heaters- <u>with Revisions through March 2006</u>
959—01	Medium Heat Appliance Factory-built Chimneys- <u>with Revisions through September 2006</u>
1453—04	Electric one Booster and Commercial Storage Tank Water Heaters – <u>with Revisions through May 2006</u>
1482— 96 98	Solid-fuel Type Room Heaters—with Revisions through January 2000 <u>November 2006</u>
2158-1997	For Electric Clothes Dryers – with Revisions through May 2004
2221—01	Tests of Fire Resistive Grease Duct Enclosure Systems <u>Assemblies</u>

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 IRC 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.

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

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Updating the editions of the referenced standards as proposed is consistent with the intent of the standards promulgators and the ICC policy for referenced standards.

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:

UL
2043—~~96~~ **2008** Fire Test for Heat and Visible Smoke Release for Discrete Products and their Accessories Installed in Air-handling Spaces— ~~with Revisions through June 2004~~

Commenter's Reason: UL 2043 will complete its ANSI approval prior to the hearings in Minnesota. The 2008 edition provides additional clarity within the scope statement. This update further supports a final action of approval as submitted for M72-07/08.

Final Hearing Results

M106-07/08

AMPC

2007/2008 INTERNATIONAL BUILDING CODE DOCUMENTATION

IBC FIRE SAFETY

Code Change No: FS137-07/08

Original Proposal

Sections: 716.2.1 (IMC [B] 607.2.1)
Proponent: Raymond A. Grill, PE, Arup, representing himself

Revise as follows:

716.2.1 (IMC [B] 607.2.1) Smoke control system. Where the installation of a fire damper will interfere with the operation of a required smoke control system designed in accordance with Section 909, approved alternative protection shall be utilized. Where mechanical systems including ducts and dampers utilized for normal building ventilation serve as part of the smoke control system, the expected performance of these systems in smoke control mode shall be addressed in the rational analysis required by Section 909.4.

Reason: This change is intended to clarify the code. The current language has been interpreted to not allow the building HVAC system to be utilized as part of a smoke control system. The change doesn't change the requirements of the code. It simply states that the building HVAC system can be utilized. As an example, even in atrium exhaust systems, the normal building mechanical ventilation systems are often designed to provide makeup air for the atrium exhaust system. A separate makeup air system is not mandated by the code and shouldn't be. Fire dampers in supply ducts serving as makeup air in a smoke control mode do not jeopardize the performance of the smoke control system.

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:

716.2.1 (IMC [B] 607.2.1) Smoke control system. Where the installation of a fire damper will interfere with the operation of a required smoke control system ~~designed~~ in accordance with Section 909, approved alternative protection shall be utilized. Where mechanical systems including ducts and dampers utilized for normal building ventilation serve as part of the smoke control system, the expected performance of these systems in smoke control mode shall be addressed in the rational analysis required by Section 909.4.

Committee Reason: The added language regarding the performance of mechanical systems used for smoke control is appropriate and will aid in plan review and enforcement. The modification deletes what the committee considered a confusing and unnecessary term.

Assembly Action:
None

Final Hearing Results

FS137-07/08
AM

Code Change No: **FS139-07/08**

Original Proposal

Sections: 716.3, 716.3.1, 716.3.2, 716.3.2.1 (New), Table 716.3.3.1, 716.3.2.2 (New), 716.3.1.1, 716.3.3.1 (New), 716.3.2.1, 716.3.3.3 (New) [IMC [B] 607.3, [B] 607.3.1, [B] Table 607.3.1, [B] 607.3.1.1, [B] 607.3.2, [B] 607.3.2.1

Proponent: Lee J. Kranz, City of Bellevue, representing The Washington Association of Building Officials (WABO), Technical Code Development Committee

Revise as follows:

716.3 (IMC [B] 607.3) Damper testing, and ratings and actuation. Damper testing, ratings and actuation shall be in accordance with Sections 716.3.1 through 716.3.3.

716.3.1 Damper testing. Dampers shall be listed and bear the label of an approved testing agency indicating compliance with the standards in this section. Fire dampers shall comply with the requirements of UL 555. Only fire dampers labeled for use in dynamic systems shall be installed in heating, ventilation and air-conditioning systems designed to operate with fans on during a fire. Smoke dampers shall comply with the requirements of UL 555S. Combination fire/smoke dampers shall comply with the requirements of both UL 555 and UL 555S. Ceiling radiation dampers shall comply with the requirements of UL 555C.

716.3.1.2 716.3.2 (IMC [B] 607.3.1) Fire protection Damper rating. Damper ratings shall be in accordance with Sections 716.3.2.1 and 716.3.2.2.

716.3.2.1 Fire damper ratings. Fire dampers shall have the minimum fire protection rating specified in Table 716.3.4 716.3.2.1 for the type of penetration.

**TABLE 716.3.4 2.1
FIRE DAMPER RATING**

(Portions of table not shown do not change)

716.3.2.2 Smoke damper ratings. Smoke damper leakage ratings shall not be less than Class II. Elevated temperature ratings shall not be less than 250°F (121°C).

716.3.1.1-3 716.3.3 (IMC [B] 607.3.1.1) Fire Damper actuating device actuation. Damper actuation shall be in accordance with 716.3.3.1 through 716.3.3.3 as applicable.

716.3.3.1 Fire damper actuation device. The fire damper actuating actuation device shall meet one of the following requirements:

1. The operating temperature shall be approximately 50°F (10°C) above the normal temperature within the duct system, but not less than 160°F (71°C).
2. The operating temperature shall be not more than 286°F (141°C) where located in a smoke control system complying with Section 909.
3. ~~Where a combination fire/smoke damper is located in a smoke control system complying with Section 909, the operating temperature rating shall be approximately 50°F (10°C) above the maximum smoke control system designed operating temperature, or a maximum temperature of 350°F (177°C). The temperature shall not exceed the UL 555S degradation test temperature rating for a combination fire/smoke damper.~~

716.3.2 (IMC [B] 607.3.2) Smoke damper ratings. Smoke damper leakage ratings shall not be less than Class II. Elevated temperature ratings shall not be less than 250°F (121°C).

716.3.2.1 716.3.3.2 (IMC [B] 607.3.2.1) Smoke damper actuation methods. The smoke damper shall close upon actuation of a listed smoke detector or detectors installed in accordance with Section 907.10 and one of the following methods, as applicable:

1. Where a smoke damper is installed within a duct, a smoke detector shall be installed in the duct within 5 feet (1524 mm) of the damper with no air outlets or inlets between the detector and the damper. The detector shall be listed for the air velocity, temperature and humidity anticipated at the point where it is installed. Other than in mechanical smoke control systems, dampers shall be closed upon fan shutdown where local smoke detectors require a minimum velocity to operate.
2. Where a smoke damper is installed above smoke barrier doors in a smoke barrier, a spot-type detector listed for releasing service shall be installed on either side of the smoke barrier door opening.
3. Where a smoke damper is installed within an unducted opening in a wall, a spot-type detector listed for releasing service shall be installed within 5 feet (1524 mm) horizontally of the damper.
4. Where a smoke damper is installed in a corridor wall or ceiling, the damper shall be permitted to be controlled by a smoke detection system installed in the corridor.
5. Where a total-coverage smoke detector system is provided within areas served by a heating, ventilation and air-conditioning (HVAC) system, smoke dampers shall be permitted to be controlled by the smoke detection system.

716.3.3.3 Smoke control system damper actuation. Where a combination fire/smoke damper is located in a smoke control system complying with Section 909, the operating temperature rating shall be approximately 50°F (27.8°C) above the maximum smoke control system designed operating temperature, or a maximum temperature of 350°F (177°C). The temperature shall not exceed the UL 555S degradation test temperature rating for a combination fire/smoke damper.

Reason: This is a reorganization of IBC Section 716.3 related to fire damper, smoke damper and combination fire/smoke damper testing, rating and actuation requirements. The proposed format addresses testing, rating and actuation for all 3 types of dampers into 3 separate subsections which organizes the information to be more user friendly. Item #3 of Section 716.3.1.1 has been relocated to a new Section 716.3.3.3 and has a new title that more accurately reflects its purpose.

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

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: Based on the proponent's request for disapproval.

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:

Lee J. Kranz, City of Bellevue, Washington, representing Washington Association of Building Officials Technical Code Development Committee, requests Approved as Modified by this public comment.

Modify proposal as follows:

716.3.2 (IMC [B] 607.3.2) Damper rating. Damper ratings shall be in accordance with Sections 716.3.2.1 ~~and 716.3.2.2~~ through 716.3.2.3.

716.3.2.3 (IMC [B] 607.3.2.3) Combination fire/smoke damper ratings. Combination fire/smoke dampers shall have the minimum fire protection rating specified for fire dampers in Table 716.3.2.1 for the type of penetration and shall also have a minimum Class II leakage rating and a minimum elevated temperature rating of 250°F (121°C).

716.3.3.1 (IMC [B] 607.3.3.1) Fire damper actuation device. The fire damper actuation device shall meet one of the following requirements:

1. The operating temperature shall be approximately 50°F (10°C) above the normal temperature within the duct system, but not less than 160°F (71°C).
2. The operating temperature shall be not more than 350°F (177°C) ~~286°F (144°C)~~ where located in a smoke control system complying with Section 909.

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716.3.3.2 (IMC [B] 607.3.3.2) Smoke damper actuation methods. The smoke damper shall close upon actuation of a listed smoke detector or detectors installed in accordance with Section 907.10 and one of the following methods, as applicable:

1. Where a smoke damper is installed within a duct, a smoke detector shall be installed in the duct within 5 feet (1524 mm) of the damper with no air outlets or inlets between the detector and the damper. The detector shall be listed for the air velocity, temperature and humidity anticipated at the point where it is installed. Other than in mechanical smoke control systems, dampers shall be closed upon fan shutdown where local smoke detectors require a minimum velocity to operate.
2. Where a smoke damper is installed above smoke barrier doors in a smoke barrier, a spot-type detector listed for releasing service shall be installed on either side of the smoke barrier door opening.
3. Where a smoke damper is installed within an unducted opening in a wall, a spot-type detector listed for releasing service shall be installed within 5 feet (1524 mm) horizontally of the damper.
4. Where a smoke damper is installed in a corridor wall or ceiling, the damper shall be permitted to be controlled by a smoke detection system installed in the corridor.
5. Where a total-coverage smoke detector system is provided within areas served by a heating, ventilation and air-conditioning (HVAC) system, smoke dampers shall be permitted to be controlled by the smoke detection system.

~~**716.3.3.3 (IMC [B] 607.3.3.3) Smoke control system damper actuation.** Where a combination fire/smoke damper is located in a smoke control system complying with Section 909, the operating temperature rating shall be approximately 50°F (27.8°C) above the maximum smoke control system designed operating temperature, or a maximum temperature of 350°F (177°C). The temperature shall not exceed the UL 555S degradation test temperature rating for a combination fire/smoke damper.~~

716.3.3.3 (IMC [B] 607.3.3.3) Combination fire/smoke damper actuation. Combination fire/smoke damper actuation shall be in accordance with Sections 716.3.3.1 and 716.3.3.2. Combination fire/smoke dampers installed in smoke control system shaft penetrations shall not be activated by local area smoke detection unless it is secondary to the smoke management system controls.

716.3.3.4 (IMC [B] 607.3.3.4) Ceiling radiation damper actuation. The operating temperature of a ceiling radiation damper actuation device shall be 50°F (27.8°C) above the normal temperature within the duct system, but not less than 160°F (71°C).

716.6.2.1 (IMC [B] 607.6.2.1) Ceiling radiation dampers. ~~Ceiling radiation dampers shall be tested in accordance with UL 555C and~~ installed in accordance with the manufacturer's installation instructions and listing. Ceiling radiation dampers are not required where either of the following applies:

1. Tests in accordance with ASTM E119 have shown that ceiling radiation dampers are not necessary in order to maintain the fire-resistance rating of the assembly.
2. Where exhaust duct penetrations are protected in accordance with Section 712.4.1.2, are located within the cavity of a wall and do not pass through another dwelling unit or tenant space.

(Portions of proposal not shown remain unchanged)

Commenter's Reason: After meeting with industry representatives we are suggesting approval of this proposal.

This code change accomplishes 5 things:

1. It consolidates all the code requirements for testing, ratings and actuation of dampers into one subsection which makes it more user friendly and accessible.
2. Clarifies that combination fire/smoke dampers must meet the hourly rating requirements of Table 716.3.2.1.
3. Modifies the maximum damper operating temperature for fire dampers used in smoke control systems to 350 degrees F to be consistent with other provisions in IBC Section 716.
4. Clarifies that combination fire/smoke dampers used in smoke control systems shall not be activated by a local area detector as that could render the smoke control system inoperable.
5. Adds ceiling radiation damper actuation criteria.

This change is needed to provide better clarity and usability. The format is organized better because it gives the requirements for each of the 4 types of dampers; fire, smoke, combination fire/smoke and ceiling radiation dampers, in 3 separate subsections; testing, rating and actuation.

For clarity please add the following to the bottom of the reason statement: Stikethroughs and underlines show changes to the current code text.

Final Hearing Results

FS139-07/08

AMPC1

Code Change No: FS141-07/08

Original Proposal

Sections: 716.5 (IMC [B] 607.5)

Proponent: Sam Dardano, City of Boulder, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

716.5 (IMC [B] 607.5) Where required. Fire dampers, smoke dampers and combination fire/smoke dampers and ~~ceiling radiation dampers~~ shall be provided at the locations prescribed in Sections 716.5.1 through 716.5.7. Where an assembly is required to have both fire dampers and smoke dampers, combination fire/smoke dampers or a fire damper and a smoke damper shall be required.

Reason: Ceiling dampers do not belong in this section as none of the referenced sections (716.5.1 through 716.5.7) relate to them.

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 ceiling dampers do not belong in this section as none of the referenced sections (716.5.1 through 716.5.7) relate to them.

Assembly Action:

None

Final Hearing Results

FS141-07/08

AS

Code Change No: FS145-07/08

Original Proposal

Section 716.5.4 (IMC [B] 607.5.3)

Proponent: Lori Lee Graham, City of Portland, OR

Revise as follows:

716.5.4 (IMC [B] 607.5.3) (Supp) Fire partitions. Ducts and air transfer openings that penetrate fire partitions shall be protected with listed fire dampers installed in accordance with their listing.

Exceptions: In occupancies other than Group H, fire dampers are not required where any of the following apply:

1. ~~The partitions are tenant separation or~~ Corridor walls in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and the duct is protected as a through penetration in accordance with Section 712.

(Exceptions not shown remain unchanged)

Reason: There has been confusion in the interpretation of this exception. In the IBC, the term 'tenant separation' is used only in conjunction with covered mall buildings. Since covered mall buildings are explicitly addressed in 716.5.4, Exception 2, there is a question about what the term 'tenant separation' means in the first exception and as such the first exception has been used in any case where two tenants are next to each other including dwelling units. Deletion of the first portion of exception 1 allows the corridor exception to remain and does not negatively affect covered malls since they are addressed in exception 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 committee agreed that since covered mall buildings are explicitly addressed in 716.5.4, Exception 2, there is a question about what the term 'tenant separation' means in the first exception. Deletion of the first portion of exception 1 allows the corridor exception to remain and does not negatively affect covered malls since they are addressed in exception 2.

Assembly Action:

None

Final Hearing Results

FS145-07/08

AS

IBC GENERAL

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:**

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, 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 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.

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 902.4.~~ 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 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.

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

IBC MEANS OF EGRESS

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.

CODE CHANGES RESOURCE COLLECTION – INTERNATIONAL MECHANICAL CODE

- 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

2007/2008 INTERNATIONAL FUEL GAS CODE DOCUMENTATION

Code Change No: FG2-07/08

Original Proposal

IFGC 106.3.2 (New); IMC 106.3.2 (New); IPC 106.3.2 (New); IPSDC 106.2.2 (New); IWUIC 105.4.1 (New)

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 AND IWUIC CODE DEVELOPMENT COMMITTEES AS FIVE SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

PART I – IFGC

Add new text as follows:

106.3.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and approve the systems, equipment, buildings, devices, premises, and spaces or areas to be used.

PART II – IMC

Add new text as follows:

106.3.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and approve the systems, equipment, buildings, devices, premises, and spaces or areas to be used.

PART III – IPC

Add new text as follows:

106.3.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and approve the systems, equipment, buildings, devices, premises, and spaces or areas to be used.

PART IV – IPSDC

Add new text as follows:

106.2.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and approve the systems, equipment, buildings, devices, premises, and spaces or areas to be used.

PART V – IWUIC

Add new text as follows:

105.4.1 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and approve the systems, equipment, buildings, devices, premises, and spaces or areas to be used.

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 inspections prior to permit issuance and is being submitted by the AHC-Admin to correlate the IFGC, IMC, IPC, IPSDC and IWUIC with current Section 109.2 of the *International Building Code* and *International Existing Building Code*, Section 105.2.2 of the *International Fire Code* and the change that was approved in the 2006/2007 cycle to create Section R105.9 of the *International Residential Code* (see *Supplement to the International Codes/2007*).

This provision would provide the code official with a useful tool in the permit process, especially in cases of permits being issued for an existing building. While the construction documents may show the scope and nature of work to be done, there may be other existing conditions in the building that could affect the continued safety profile of the building and the approval of a permit which could only be discovered by inspection.

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

Public Hearing Results

PART I – IFGC

Committee Action:

Disapproved

Committee Reason: The authorization given in the proposed text is already common practice and is the privilege of the authority having jurisdiction. Section 106.4 is a more appropriate location for such new text.

Assembly Action:

None

PART II – IMC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.3.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and ~~approve~~ evaluate the systems, equipment, buildings, devices, premises and spaces or areas to be used.

Committee Reason: This section needs to be consistent with similar sections in other I-codes. This provision can be a valuable tool for the code official, especially for existing buildings, by allowing him/her to inspect conditions that might affect safety before issuing the permit. The modification replaced the term “approve” with the term “evaluate” to avoid the impression that the code official can only approve the items rather than evaluating and possibly disapproving them.

Assembly Action:

None

PART III – IPC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.3.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and ~~approve~~ evaluate the systems, equipment, buildings, devices, premises, and spaces or areas to be used.

Committee Reason: The committee agreed with the proponent’s reason statement indicating that the new text is necessary for consistency with coordinating sections already established in the IBC, IEBC, and IRC and legally allows the code official to make ‘evaluation’ inspections of a site or building prior to a permit being issued. The modification was to change the word “approve” to “evaluate” so as to further clarify the purpose of the code official’s visit in a pre-permit inspection.

Assembly Action:

None

PART IV – IPSDC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.2.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and ~~approve~~ evaluate the systems, equipment, buildings, devices, premises, and spaces or areas to be used.

Committee Reason: : The committee agreed with the proponent’s reason statement indicating that the new text is necessary for consistency with coordinating sections already established in the IBC, IEBC, and IRC and legally allows the code official to make ‘evaluation’ inspections of a site or building prior to a permit being issued. The modification was to change the word “approve” to “evaluate” so as to further clarify the purpose of the code official’s visit in a pre-permit inspection.

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, IPC, and IPSDC and will provide the code official with a useful tool in managing the permit process, especially in cases of permits being issued for an existing building.

Assembly Action:**None**

Final Hearing Results

FG2-07/08, Part I	D
FG2-07/08, Part II	AM
FG2-07/08, Part III	AM
FG2-07/08, Part IV	AM
FG2-07/08, Part V	AS

Code Change No: FG3-07/08

Original Proposal

Sections: 106.3.2 (New); IMC 106.3.2 (New); IPC 106.3.2 (New); IPSDC 106.2.2 (New); IWUIC 105.4.1 (New)

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 AND IWUIC CODE DEVELOPMENT COMMITTEES AS FIVE SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFGC**Add new text as follows:**

106.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

PART II – IMC**Add new text as follows:**

106.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

PART III – IPC**Add new text as follows:**

106.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

PART IV – IPSDC

Add new text as follows:

106.2.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

PART V – IWUIC

Add new text as follows:

105.4.1 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

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 permit applications and is being submitted by the AHC-Admin to correlate the IFGC, IMC, IPC, IPSDC and IWUIC with current Section 105.3.2 of the *International Building Code* and *International Existing Building Code*, Section R105.3.2 of the *International Residential Code* and Section 105.2.3 of the *International Fire Code*. It is not unusual to have a permit application submitted in good faith, only to have it later abandoned for any number of reasons. Abandoned permit applications and their accompanying documents can become an administrative burden and take up valuable storage space. The new section would provide the code official with a useful administrative tool in the processing of permit applications by limiting the time between the review process and the issuance of a permit and reduce the burden of storing abandoned applications. It would also provide the authority to grant extensions of time when such extensions are justified.

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

Public Hearing Results

PART I – IFGC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official ~~is authorized~~ shall have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Committee Reason: The proposed revision achieves consistency with and coordination among the codes in the ICC family. The new text will relieve the code official's burden of having to file and store abandoned applications for permits and will allow for extensions to be granted for cause. The committee agreed with the proponent's reasons. The modification simply substitutes common code language for atypical code language.

Assembly Action:

None

PART II – IMC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official ~~is authorized~~ shall have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Committee Reason: This section needs to be consistent with similar sections in other I-codes. It adds a definite time limit on permits where the work has not begun. The modification replaces "is authorized" with the more mandatory "shall have the authority".

Assembly Action:

None

PART III – IPC**Committee Action:****Approved as Modified****Modify the proposal as follows:**

106.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official ~~is authorized shall~~ have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Committee Reason: : The committee agreed with the proponent's reason statement indicating that the new text is necessary for consistency with coordinating sections already established in the IBC, IEBC, IFC and IRC. Applications for permits are sometimes abandoned by the requester for a variety of reasons resulting in a burden to the jurisdiction for storing these abandoned documents for an indefinite time period. The new text establishes a maximum retention time so that the jurisdiction can free up valuable file storage space. It also allows for extensions of time for applications. The modification restates the code official's authority in mandatory code language

Assembly Action:**None****PART IV – IPSDC****Committee Action:****Approved as Modified****Modify proposal as follows:**

106.2.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official ~~is authorized~~ shall have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Committee Reason: The committee agreed with the proponent's reason statement indicating that the new text is necessary for consistency with coordinating sections already established in the IBC, IEBC, IRC, IFC, IFGC, IMC, IPC, and IPSDC and will provide the code official with a useful tool in managing the permit process by limiting the time between the review process and the issuance of a permit and reducing the burden of storing abandoned applications. It will also provide the code official with the authority to grant extensions of time when such extensions are justified.

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, IEBC, IRC, IFC, IFGC, IMC, IPC, and IPSDC and will provide the code official with a useful tool in managing the permit process by limiting the time between the review process and the issuance of a permit and reducing the burden of storing abandoned applications. It will also provide the code official with the authority to grant extensions of time when such extensions are justified.

Assembly Action:**None**

Final Hearing Results

FG3-07/08, Part I	AM
FG3-07/08, Part II	AM
FG3-07/08, Part III	AM
FG3-07/08, Part IV	AM
FG3-07/08, Part V	AS

Code Change No: **FG4-07/08**

Original Proposal

IFGC 106.4.5; IMC 106.4.5; IPC 106.5.5; IPSDC 106.3.5

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 AND IPC AND IPSDC CODE DEVELOPMENT COMMITTEES AS FOUR SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

PART I – IFGC

Revise as follows:

106.4.5 Suspension or revocation of permit. The code official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code. ~~shall revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents upon which the permit or approval was based.~~

PART II – IMC

Revise as follows:

106.4.5 Suspension or revocation of permit. The code official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code. ~~shall revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents upon which the permit or approval was based.~~

PART III – IPC

Revise as follows:

106.5.5 Suspension or revocation of permit. The code official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code. ~~shall revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents upon which the permit or approval was based.~~

PART IV - IPSDC

Revise as follows:

106.3.5 Suspension or revocation of permit. The code official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code. ~~shall revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents upon which the permit or approval was based.~~

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 permit suspension or revocation and is being submitted by the AHC-Admin to correlate the IFGC, IMC, IPC and IPSPDC with current Section 105.6 of the *International Building Code* and *International Existing Building Code*, Section R105.6 of the *International Residential Code*, Section 105.5 of the *International Fire Code* and Section 105.10 of the *International Wildland-Urban Interface Code*.

The revised text gives needed discretion to the code official in determining whether a permit should be suspended or revoked rather than imposing a mandatory duty upon the code official, which the AHC judged to be more appropriate than the current restrictive text.

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

Public Hearing Results

PART I – IFGC

Committee Action:

Approved as Modified

Modify proposal as follows:

106.4.5 Suspension or revocation of permit. The code official ~~is authorized~~ shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

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 provides for code official discretion in determining whether to revoke a permit. The modification simply substitutes common code language for atypical language.

Assembly Action:

None

PART II – IMC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.4.5 Suspension or revocation of permit. The code official ~~is authorized~~ shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

Committee Reason: This section needs to be consistent with similar sections in other I-codes. The change deletes the mandatory “shall revoke a permit” with the more appropriate “is authorized to revoke” which provided the code official the leeway to review the circumstances and make the appropriate decision. The modification replaces “is authorized” with the more mandatory “shall have the authority”.

Assembly Action:

None

PART III – IPC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.5.5 Suspension or revocation of permit. The code official ~~is authorized~~ shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

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, IEBC, IFC, IWUIC and IRC. The revised text allows the code official more discretion in determining whether a permit should be revoked or suspended if incorrect information is discovered after permit issuance. The modification restates the code official's authority in mandatory code language.

Assembly Action:

None

PART IV – IPSPDC

Committee Action:

Approved as Modified

Modify the proposal as follows:

106.3.5 Suspension or revocation of permit. The code official ~~is authorized~~ shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

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, IEBC, IFC, IWUIC and IRC. The revised text allows the code official more discretion in determining whether a permit should be revoked or suspended if incorrect information is discovered after permit issuance. The modification restates the code official's authority in mandatory code language.

Assembly Action:

None

Final Hearing Results

FG4-07/08, Part I	AM
FG4-07/08, Part II	AM
FG4-07/08, Part III	AM
FG4-07/08, Part IV	AM

Code Change No: **FG5-07/08**

Original Proposal

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 Change No: FG6-07/08

Original Proposal

IFGC 106.4.7 (New); IMC 106.4.7 (New); IPC 106.5.7 (New); IPSDC 106.2.4 (New); IFC 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)

THESE PROPOSALS ARE ON THE AGENDA OF THE IFGC, IMC, IPC, IPSDC AND IFC CODE DEVELOPMENT COMMITTEES AS FIVE SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

PART I – IFGC

Add new text as follows:

106.4.7 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

PART II – IMC**Add new text as follows:**

106.4.7 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

PART III – IPC**Add new text as follows:**

106.5.7 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

PART IV – IPSDC**Add new text as follows:**

106.2.4 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

PART V – IFC**Add new text as follows:**

105.4.4.1 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

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 continuity of the permit process and is being submitted by the AHC-Admin to correlate the IFGC, IMC, IPC, IPSDC and IFC with current Section 106.3.2 of the *International Building Code* and *International Existing Building Code*, current Section R106.3.2 of the *International Residential Code* and the change that was approved in the 2006/2007 cycle creating Section 106.11 of the *International Wildland-Urban Interface Code* (see *Supplement to the International Codes/2007*).

This provision would provide the code official with a useful tool to protect the continuity of permits issued under previous codes or code editions, as long as such permits are being actively executed subsequent to the effective date of the ordinance adopting this edition of the code.

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 the code official with the ability to protect the continuity of permits issued under previous codes or code editions, provided that such permits are being actively executed after the effective date of the currently adopted code.

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. It provides the code official with a tool to allow construction to continue under a previous edition of the code if the permit is actively executed within the designated time frame.

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 new text is necessary for consistency with coordinating sections already established in the IEBC, IBC, IWUIC and IRC. As some projects are permitted just prior to the adoption of a new code edition, this new text protects the continuity of the permit so that construction can proceed in accordance with the code edition under which the permit was issued.

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 new text is necessary for consistency with coordinating sections already established in the IEBC, IBC, IWUIC and IRC. As some projects are permitted just prior to the adoption of a new code edition, this new text protects the continuity of the permit so that construction can proceed in accordance with the code edition under which the permit was issued.

Assembly Action:

None

PART V – IFC

Committee Action:

Disapproved

Committee Reason: The committee felt that the proposed new section would be in conflict with current Section 105.3.6 of the IFC and that it would be problematic with respect to the retroactive provisions of the code.

Assembly Action:

None

Final Hearing Results

FG6-07/08, Part I	AS
FG6-07/08, Part II	AS
FG6-07/08, Part III	AS
FG6-07/08, Part IV	AS
FG6-07/08, Part V	D

Code Change No: FG7-07/08

Original Proposal

Section 106.4.7 (New); IMC 106.4.7 (New); IPC 106.5.7 (New); IPSDC 106.3.7 (New)

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 AND IPSDC CODE DEVELOPMENT COMMITTEES AS FOUR SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

PART I – IFGC**Add new text as follows:**

106.4.7 Posting of permit. The permit or a copy shall be kept on the site of the work until the completion of the project.

PART II – IMC**Add new text as follows:**

106.4.7 Posting of permit. The permit or a copy shall be kept on the site of the work until the completion of the project.

PART III – IPC**Add new text as follows:**

106.5.7 Posting of permit. The permit or a copy shall be kept on the site of the work until the completion of the project.

PART IV – IPSDC**Add new text as follows:**

106.3.7 Posting of permit. The permit or a copy shall be kept on the site of the work until the completion of the project.

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 permit posting and is being submitted by the AHC-Admin to correlate the IFGC, IMC, IPC and IPSDC with Section 105.7 of the *International Building Code* and *International Existing Building Code*, Section R105.7 of the *International Residential Code*, Section 105.3.5 of the *International Fire Code* and Section 105.9 of the *International Wildland-Urban Interface Code*.

The provision would provide the code official with a useful administrative tool by requiring the permit to be posted and available on the jobsite so that inspector entries can be made thereon and to provide evidence to anyone needing it that the project has been duly authorized.

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 permit should be available on the jobsite as evidence of work authorization and to serve the inspectors needs.

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 code change provides enforceable language to insure that the permit is posted and available on the jobsite at all times.

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 new text is necessary for consistency with coordinating sections already established in the IEBC, IBC, IWUIC and IFC. Requiring that a permit copy be kept on site provides proof to anyone needing it that the work in question has been authorized.

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 new text is necessary for consistency with coordinating sections already established in the IEBC, IBC, IWUIC and IFC. Requiring that a permit copy be kept on site provides proof to anyone needing it that the work in question has been authorized.

Assembly Action:

None

Final Hearing Results

FG7-07/08, Part I	AS
FG7-07/08, Part II	AS
FG7-07/08, Part III	AS
FG7-07/08, Part IV	AS

Code Change No: FG17-07/08

Original Proposal

Sections 306.3, 306.4; IMC 306.3, 306.4; IRC M1305.1.3, M1305.1.4

Proponent: Guy McMann, Jefferson County, CO, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO)

THESE PROPOSALS ARE ON THE AGENDA OF THE IFGC, IMC AND THE IRC-MECHANICAL CODE DEVELOPMENT COMMITTEES AS THREE SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFGC

Revise as follows:

[M] 306.3 (Supp) Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and unobstructed passageway large enough to allow removal of the largest component of the appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), where such dimensions are and large enough to allow removal of the largest component of the appliance.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.

2. Where the passageway is not less than 6 feet (1829 mm) high for its entire length, the passageway shall be not greater than 50 feet (15 250 mm) in length.

[M] 306.4 (Supp) Appliances under floors. Under-floor spaces containing appliances requiring access shall be provided with an access opening and unobstructed passageway large enough to remove the largest ~~component of the~~ appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) in length ~~when~~ measured along the centerline of the passageway from the opening to the appliance. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry extending 4 inches (102 mm) above the adjoining grade and having sufficient lateral-bearing capacity to resist collapse. The clear access opening dimensions shall be a minimum of 22 inches by 30 inches (559 mm by 762 mm), ~~where such dimensions are~~ and large enough to allow removal of the largest ~~component of the~~ appliance.

Exceptions:

1. The passageway is not required where the level service space is present when the access is open and the appliance is capable of being serviced and removed through the required opening.
2. Where the passageway is not less than 6 feet high (1829 mm) for its entire length, the passageway shall not be limited in length.

PART II – IMC

Revise as follows:

306.3 Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and unobstructed passageway large enough to allow removal of the largest appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length measured along the center line of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), ~~where such dimensions are~~ and large enough to allow removal of the largest appliance.

Exceptions:

1. The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches wide for its entire length, the passageway shall be not greater than 50 feet (15 250 mm) in length.

306.4 Appliances under floors. Underfloor spaces containing appliances requiring access shall be provided with an access opening and unobstructed passageway large enough to remove the largest appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) in length measured along the centerline of the passageway from the opening to the appliance. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry. Such concrete or masonry shall extend a minimum of 4 inches (102 mm) above the adjoining grade and shall have sufficient lateral-bearing capacity to resist collapse. The clear access opening dimensions shall be a minimum of 22 inches by 30 inches (559 mm by 762 mm), ~~where such dimensions are~~ and large enough to allow removal of the largest appliance.

Exceptions:

1. The passageway is not required where the level service space is present when the access is open and the appliance is capable of being serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet high (1929 mm) and 22 inches wide for its entire length, the passageway shall not be limited in length.

PART III – IRC-M

Revise as follows:

M1305.1.3 Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long ~~when~~ measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm) by 762 mm), ~~where such dimensions are~~ and large enough to allow removal of the largest appliance.

Exceptions:

1. The passageway and level service space are not required where the appliance can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not more than 50 feet (15 250 mm) long.

M1305.1.4 Appliances under floors. Underfloor spaces containing appliances requiring access shall have an unobstructed passageway large enough to remove the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) long ~~when~~ measured along the centerline of the passageway from the opening to the appliance. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry extending 4 inches (102 mm) above the adjoining grade in accordance with Chapter 4. The rough-framed access opening dimensions shall be a minimum of 22 inches by 30 inches (559 mm by 762 mm), ~~where the dimensions are~~ and large enough to remove the largest appliance.

Exceptions:

1. The passageway is not required where the level service space is present when the access is open, and the appliance can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet high (1929 mm) and 22 inches wide for its entire length, the passageway shall not be limited in length.

Reason: This language is inconsistent with that of the IMC and IRC. The intent is to provide relief in the size of the opening provided that the appliance can be removed through such a size; not to be dismantled in order to do so. All three documents need to be consistent in their approach; that the opening needs to be as large as the largest appliance, not the largest piece. The last sentence of each section fails to specify an access opening size where the opening is NOT large enough to allow removal of the appliance. The IMC and IRC text is revised to be consistent with the IFGC text. The text only implies that the openings might need to be larger than 20" x 30" based on an appliance size. The revision clarifies that both criteria apply.

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

Analysis: Sections 306.3 and 306.4 of the *International Fuel Gas Code* (IFGC) are designated as being under the purview of the IMC Committee, however, the primary revision in Part I is related only to the IFGC and will therefore be heard by the IFGC Committee.

Public Hearing Results

PART I – IFGC

Committee Action:

Approved as Submitted

Committee Reason: Attic access openings and passageways need to be large enough to allow appliances to pass through without the need to disassemble them. This would apply to taking an appliance out of an attic as well as putting a new one in an attic. It is unclear what the "largest component" of an appliance would be. The last sentence is revised to clarify that the stated opening size is the minimum in all cases.

Assembly Action:

None

PART II – IMC

Committee Action:

Approved as Submitted

Committee Reason: This change clarifies that the opening must be large enough to remove the largest appliance without having to dismantle the appliance. This will make the IMC consistent with the language in the IFGC and IRC.

Assembly Action:

None

PART III – IRC-M

Committee Action:

Approved as Submitted

Committee Reason: The addition of the word "and" in both sections makes it clear that the opening must meet the minimum dimension and large enough to remove the largest appliance without having to dismantle the appliance. This will make the IRC consistent with the language in the IFGC and IMC.

Assembly Action:

None

Final Hearing Results

FG17-07/08 Part I	AS
FG17-07/08 Part II	AS
FG17-07/08 Part II	AS

Code Change No: FG45-07/08

Original Proposal

Sections: 618.5; IMC 918.6

Proponent: Tony Longino, County of Greenville SC, representing South Carolina Plumbing Gas Mechanical Inspectors Association

THESE PROPOSALS ARE ON THE AGENDA OF THE IFGC AND IMC CODE DEVELOPMENT COMMITTEES AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IFGC

Revise as follows:

618.5 Prohibited sources. Outside or return air for a forced-air heating system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in the *International Mechanical Code*.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Section 618.2, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A room or space containing an appliance where such a room or space serves as the sole source of return air.

Exception: This shall not apply where:

1. The appliance is a direct-vent appliance or an appliance not requiring a vent in accordance with Section 501.8.
2. The room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. Rooms or spaces containing solid fuel-burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.
6. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room or furnace room.

Exception: Where return air intakes are located not less than of 10 feet (3048 mm) from cooking appliances, taking return air from kitchen service areas shall not be prohibited.

PART II – IMC

Revise as follows:

918.6 Prohibited sources. Outdoor or return air for a forced-air heating system shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outdoor air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in this code.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Sections 918.2 and 918.3, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room or furnace room.

Exception: Where return air intakes are located not less than of 10 feet (3048 mm) from cooking appliances, taking return air from kitchen service areas shall not be prohibited.

6. A room or space containing a fuel-burning appliance where such room or space serves as the sole source of return air.

Exceptions:

1. This shall not apply where the fuel-burning appliance is a direct-vent appliance.
2. This shall not apply where the room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6 L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.

- 2.3. Return-air inlets shall not be located within 10 feet (3048 mm) of any appliance firebox or draft hood in the same room or space.
3. This shall not apply to rooms or spaces containing solid fuel-burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.

Reason: Many Commercial kitchens are designed with HVAC systems that serve only the kitchen service area. Many do not have defining walls from other service areas leaving designers and inspectors with the question of where does the kitchen start and end. Section 5 prohibits return opening in a kitchen, leaving designers with the choice of using outside air only or returning air to another part of the building. This change would allow for recirculation in a kitchen service area without interfering with the operation of other appliances such as hoods. The distance of 10' was from a legacy code and from the distances provided in the same section from odors and intakes.

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

Public Hearing Results

PART I – IFGC

Committee Action:

Disapproved

Committee Reason: The proponent asked that the proposal be disapproved in anticipation of submitting a public comment to reword the text to capture his intent.

Assembly Action:

None

PART II – IMC

Committee Action:

Disapproved

Committee Reason: The proponent requested that the committee disapprove this code change to allow him to possibly rework it and submit a public comment.

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:

Tony Longino, County of Greenville, SC, representing South Carolina Plumbing, Mechanical and Gas Inspectors Association, requests Approval as Modified by this public comment for Part II.

Modify proposal as follows:

918.6 Prohibited sources. Outside or return air for a forced-air heating system shall not be taken from the following locations:

1. through 4. (No change to current text)
5. A closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room or furnace room.

Exception: Where return air intakes are located not less than 10 feet from cooking appliances, and serve only the kitchen area, taking return air from a kitchen area shall not be prohibited

6. (No change to current text)

Commenter's Reason: I requested disapproval from the committee in Palm Springs due to a misunderstanding between the staff and myself on the intent of my code change. Staff re-worded my original proposal before it came to the committee to improve on the code language and concerns over the term "kitchen service area". However with the re-write of the section we lost the intent of allowing a return when the system serves only the kitchen area.

The code as written prohibits return ducts to be located in a kitchen due to concerns of interfering with the draft of the exhaust hoods and to prevent the contaminants and byproducts of cooking from entering the HVAC system.

When a HVAC system serves only a kitchen area, the return must either come from that area or it must have 100% outside air. Standard HVAC systems are not designed to handle more than 25% of the air that is returned to the system to be unconditioned. This would make it impossible to condition the area with a standard system. This would be a waste of energy and an increase in expense to the owner and builder both at the purchase of the equipment and the constant expense of conditioning outside air.

This proposal would allow a return intake to be installed in a commercial kitchen provided there is a 10' separation between the cooking appliances and the return intake, as long as the system served only the kitchen area. This will prevent contaminants, smoke and odor from spreading to a dining area or other areas of the building.

I believe this modification will clean up the language as intended by staff and eliminate the need to define the term “kitchen service area”, while reducing the cost of commercial kitchens both in construction and operation.

The 10’ distance between appliances and return intakes was drawn from a legacy code and was effective for many years without incident. There are testing procedures currently in code to prevent the return from interfering with the exhaust and all returns for HVAC systems require filtering to prevent damage to the system from contaminants.

Final Hearing Results

FG45-07/08, Part I **AMPC**
FG45-07/08, Part II **AMPC**

Code Change No: FG49-07/08

Original Proposal

Sections: [F] 633.1; IMC [F] 924.1

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 THAT COMMITTEE.

Revise as follows:

[F] 633.1 (IMC [F] 924.1) General. Stationary fuel-cell power systems having a power output not exceeding 10 MW shall be tested in accordance with ANSI CSA America FC 1 and shall be installed in accordance with the manufacturer’s installation instructions, and NFPA 853, the *International Building Code* and the *International Fire Code*.

Reason: As currently written Section 633.1 of the International Fuel Gas Code and Section 924.1 of the *International Mechanical Code* imply that only the manufacturer’s instructions and NFPA 853 would be applicable to the installation of stationary fuel-cell power systems. This proposal clarifies that such installations must also comply with the *International Building Code* and the *International Fire Code*.

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

Public Hearing Results

This code change was heard by the International Fire Code Development Committee.

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

FG49-07/08 **AS**

CODE CORRELATION COMMITTEE (CCC) 2006-2008

The following information provides a summary of all editorial changes to the 2006 International Mechanical Code, that are reflected in the 2009 International Mechanical Code, as approved by the ICC Code Correlation Committee (CCC).

2009 SECTION	2006 SECTION	DESCRIPTION OF REVISION	CCC REF YEAR
Defined Terms		All words that are specifically defined in the code (all codes) shall be italicized when used in their respective code.	2006
502.10.1	502.10.1	<p>[F]502.10.1 Where required. (No change to text)</p> <p>1. through 6. (No change)</p> <p>7. Gas rooms: Exhaust ventilation for gas rooms shall comply with Section 502.8.2 Exhaust ventilation for gas eabinets <u>rooms</u> containing highly toxic or toxic gases shall also comply with Sections 502.9.7 and 502.9.8.</p>	2008
504.6.4.1 (New)		504.6.4.1 (IFGC [M]614.6.4.1) Specified length. The maximum length of the exhaust duct shall be 25 <u>35</u> feet (7620 mm) from the connection to the transition duct from the dryer to the outlet terminal.	2008

