INTERNATIONAL CODE COUNCIL
2009/2010 CODE DEVELOPMENT CYCLE

PROPOSED CHANGES TO THE 2009 EDITIONS OF THE

INTERNATIONAL BUILDING CODE®

INTERNATIONAL ENERGY CONSERVATION CODE®

INTERNATIONAL EXISTING BUILDING CODE®

INTERNATIONAL FIRE CODE®

INTERNATIONAL FUEL GAS CODE®

INTERNATIONAL MECHANICAL CODE®

INTERNATIONAL PLUMBING CODE®

INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE®

INTERNATIONAL PROPERTY MAINTENANCE CODE®

INTERNATIONAL RESIDENTIAL CODE®

INTERNATIONAL WILDLAND-URBAN INTERFACE CODE®

INTERNATIONAL ZONING CODE®

October 24 2009 – November 11, 2009

Hilton Baltimore
Baltimore, MD

First Printing

Publication Date: August 2009

PRINTED IN THE U.S.A.

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INTRODUCTION

The proposed changes published herein have been submitted in accordance with established procedures and are distributed for review. The publication of these changes constitutes neither endorsement nor question of them but is in accordance with established procedures so that any interested individuals may make their views known to the relevant code committee and others similarly interested. In furtherance of this purpose, the committee will hold an open public hearing at the date and place shown below for the purpose of receiving comments and arguments for or against such proposed changes. Those who are interested in testifying on any of the published changes are expected to be represented at these hearings.

This compilation of code change proposals is available in electronic form only. As part of ICC's green initiative, ICC will no longer print and distribute this document. The compilation of code change proposals will be posted on the ICC website, and CD copies will be distributed to all interested parties on our list.

2009 ICC CODE DEVELOPMENT HEARINGS

These proposed changes will be discussed in public hearings to be held on October 24, 2009 through October 31, 2009 and November 4-11, 2009 at the Hilton Baltimore, Baltimore, Maryland. The code committees will conduct their public hearings in accordance with the schedule shown on page xxxii.

REGISTRATION AND VOTING

All members of ICC may vote on any assembly motion on proposed code changes to all International Codes. **For identification purposes, eligible voting members must register, at no cost, in order to vote.** The registration desk will be open in the lobby of the convention center according to the following schedule:

Friday, October 23rd	3:00 pm to 6:00 pm
Saturday, October 24th through Wednesday November 11th	7:30 am to 5:00 pm

Council Policy #28-Code Development (page xii) requires that ICC's membership records regarding ICC members reflect the eligible voters 10 days prior to the start of the Code Development Hearings. This process includes new as well as changes to voting status. Section 5.7.4 of CP #28 (page xix) reads as follows:

> **5.7.4 Eligible Voters:** All members of ICC in attendance at the public hearing shall be eligible to vote on floor motions. Only one vote authorized for each eligible attendee. Code Development Committee member shall be eligible to vote on floor motions. Application, whether new or updated, for ICC membership must be received by the Code Council ten days prior to the commencement of the first day of the public hearing.

As such, new membership application as well as renewal applications must be received by ICC's Member Services Department by October 14, 2009. These records will be used to verify eligible voter status for the Code Development Hearings. Members are strongly encouraged to review their membership records for accuracy well in advance of the hearings so that any necessary changes are made prior to the October 14, 2009 deadline. For information on application for new membership and membership renewal, please go to www.iccsafe.org/membership/join.html or call ICC Member Services at 1-888-ICC SAFE (422-7233)

It should be noted that a corporate member has a single vote. Only one representative of a corporate member will be issued a voting badge. ICC Staff will be contacting corporate members regarding who the designated voting representative will be.

ADVANCED REGISTRATION

You are encouraged to advance register by filling out the registration form available at www.iccsafe.org/codesforum.

CODE DEVELOPMENT PROCESS CHANGES

As noted in the posted Advisory Statement of February 4, 2009, the revised Code Development Process includes maintaining the current 3-year publication cycle with a single cycle of code development between code editions. The schedule for the 2009/2010 Code Development Cycle is the transitional schedule for the revised code development process. As noted, there will be two Final Action Hearings in 2010—one for the modified Group A, and one for the modified Group B. The codes that will comprise the Group A and Group B hearings will be announced prior to the Code Development Hearings in Baltimore. See the Code Development Process Notes included with the Schedule on page viii.

PROCEDURES

The procedures for the conduct of the public hearing are published in *Council Policy #28-Code Development (CP#28)* ("Procedures") on page xii. The attention of interested parties is specifically directed to Section 5.0 of the Procedures. These procedures indicate the conduct of, and opportunity to participate in the ICC Code Development Process. Please review these procedures carefully to familiarize yourself with the process.

There have been a number of revisions to the procedures. Included among these revisions are the following:

Section 2.3: **Supplements:** ICC will no longer produce a Supplement to each edition of the I-Codes. A new edition of the I-Codes will be based upon activity of a single code change cycle.

Section 3.3.3: **Multiple code change proposals:** A proponent is not permitted to submit multiple code changes to one section of a code unless the subject matter of each proposal is different.

Section 4.5.1: **Administrative update of standards:** Updating of standards without a change to code text (administrative update) shall be a code change proposal dealt with by the Administrative Code Development Committee. The updating of standards procedures have also changed. See discussion on updating of standards on page vi.

Section 4.7: **Code change posting:** All code change proposals are required to be posted on the ICC website 30 days before the code development hearings. Published copies will not be provided.

Section 5.2.2: **Conflict of interest:** Clarification is added that a committee member who steps down from the dais because of a conflict of interest is allowed to provide testimony from the floor on that code change proposal.

Section 5.4.6.2: **Proponent rebuttal testimony:** Where the code change proposal is submitted by multiple proponents, only one proponent of the joint submittal to be allotted additional time for rebuttal.

Section 5.5.2: **Modifications:** The chair rules a modification in or out of order. The chair's decision is final. No challenge in a point of order is allowed for this ruling.

Section 5.7.3: **Assembly Actions:** Several changes have been made to assembly actions. See explanation page v

Section 7.3.8.2: **Initial motion at final action hearings:** A successful assembly action becomes the initial motion at the final action hearings. See explanation page v.

ASSEMBLY ACTION

The procedures regarding assembly action at the Code Development Hearings have been revised to place more weight on the results of that action (see Section 5.7 of CP #28 on page viii). Some important items to note regarding assembly action are:

- A successful assembly action now requires a 2/3 majority rather than a simple majority.
- After the committee decision on a code change proposal is announced by the moderator, any one in the assembly may make a motion for assembly action.
- After a motion for assembly action is made and seconded, the moderator calls for a floor vote in accordance with Section 5.7.2. *No additional testimony will be permitted.*
- A successful assembly action becomes the initial motion considered at the Final Action Hearings. This also means that the required vote at the Final Action Hearings to uphold the assembly action is a simple majority.

MULTIPLE PART CODE CHANGE PROPOSALS

It is common for ICC to receive code change proposals for more than one code or more than 1 part of a code that is the responsibility of more than one committee. For instance, a code change proposal could be proposing related changes to the text of IBC Chapter 4 (IBC-General), IBC Chapter 7 (IBC-Fire Safety), and the IFC Chapter 27 (IFC). When this occurs, a single committee will now hear all of the parts, unless one of the parts is a change to the IRC, in which case the respective IRC committee will hear that part separately.

ADMINISTRATIVE CODE DEVELOPMENT COMMITTEE

A new committee for the 2009/2010 Code Change Cycle and going forward is the Administrative Code Development Committee. This committee will hear code change proposals to the administrative provisions of the I-Codes (Chapter 1 of each code.) The purpose of this committee is to achieve, inasmuch as possible, uniformity in the administrative provisions of all I-Codes when such uniformity is warranted.

ANALYSIS STATEMENTS

Various proposed changes published herein contain an “analysis” that appears after the proponent’s reason. These comments do not advocate action by the code committees or the voting membership for or against a proposal. The purpose of such comments is to identify pertinent information that is relevant to the consideration of the proposed change by all interested parties, including those testifying, the code committees and the voting membership. Staff analyses customarily identify such things as: conflicts and duplication within a proposed change and with other proposed changes and/or current code text; deficiencies in proposed text and/or substantiation; text problems such as wording defects and vagueness; background information on the development of current text; and staff’s review of proposed reference standards for compliance with the Procedures. Lack of an analysis indicates neither support for, nor opposition to a proposal.

REFERENCE STANDARDS

Proposed changes that include the addition of a reference to a new standard (i.e. a standard that is not currently referenced in the I-Codes.) will include in the proposal the number, title and edition of the proposed standard. This identifies to all interested parties the precise document that is being proposed and which would be included in the referenced standards chapter of the code if the proposed change is approved. Proponents of code changes which propose a new standard have been directed to forward copies of the standard to the Code Committee and an analysis statement will be posted on the ICC website indication the status of compliance of the standard with the ICC referenced standards criteria in Section 3.6 of CP #28 (see page xiv). (See the ICC Website page xi) The analysis statements for referenced standards will be posted on or before September 24, 2009. This information will also be published and made available at the hearings.

REFERENCED STANDARDS UPDATES

At the end of the agenda of the Administrative Code Development Committee is a code change proposal that is an administrative update of the referenced standards contained in the I-Codes. This code change proposal, ADM39-09/10 contains a list of standards for which the respective promulgators have indicated that the standard has been updated. The codes that these standards appear in are indicated beside each listed referenced standard. This update will then apply to every code in which the standard appears.

It should be noted that in accordance with Section 4.5.1 of CP #28 (see page xvi), standards promulgators have until December 1, 2011 to finalize and publish any updates to standards in the administrative update. If the standard is not finalized by December 1, 2011, the code will be revised to reference the previously listed year edition of that standard.

MODIFICATIONS

Those who are submitting modification for consideration by the respective Code Development Committee are required to submit a Copyright Release in order to have their modifications considered (Section 3.3.4.5 of CP #28). It is preferred that such release be executed in advance – the form is at http://www.iccsafe.org/cs/codes/publicforms.htm. Copyright release forms will also be available at the hearings. Please note that an individual need only sign one copyright release for submittals of all code change proposals, modification, and public comments in this code change cycle for which the individual might be responsible. **Please be sure to review Section 5.5.2 of CP #28 for the modification process.** The Chair of the respective code development committee rules a modification in or out of order. That ruling is final, with no challenge allowed. The proponent submitting a modification is required to supply 20 printed copies. The minimum font size must be 12 point.

CODE CORRELATION COMMITTEE

In every code change cycle, there are code change proposals that are strictly editorial. The Code Correlation Committee approves all proposals deemed editorial. A list of code correlation committee actions will be posted on the ICC website by September 24, 2009.

2009/2010 ICC CODE DEVELOPMENT SCHEDULE

STEP IN CODE DEVELOPMENT CYCLE	DATE
DEADLINE FOR RECEIPT OF APPLICATIONS FOR CODE COMMITTEES	January 2, 2009
DEADLINE FOR RECEIPT OF CODE CHANGE PROPOSALS	June 1, 2009
WEB POSTING OF "PROPOSED CHANGES TO THE I-CODES"	August 24, 2009
DISTRIBUTION DATE OF "PROPOSED CHANGES TO THE I-CODES" (Limited distribution – see notes)	October 3, 2009
CODE DEVELOPMENT HEARING (CDH) ALL CODES – see notes	**October 24 2009 – November 11, 2009** Hilton Baltimore Baltimore, MD
WEB POSTING OF "REPORT OF THE PUBLIC HEARING"	December 16, 2009
DISTRIBUTION DATE OF "REPORT OF THE PUBLIC HEARING" (Limited distribution – see notes)	January 11, 2010

IN ACCORDANCE WITH THE NEW CODE DEVELOPMENT PROCESS (see notes), THE CODES WILL BE SPLIT INTO TWO GROUPS WITH SEPARATE PUBLIC COMMENT DEADLINES AND FINAL ACTION HEARINGS

	GROUP A (see notes)	GROUP B (see notes)
DEADLINE FOR RECEIPT OF PUBLIC COMMENTS	February 8, 2010	July 1, 2010
WEB POSTING OF PUBLIC COMMENTS "FINAL ACTION AGENDA"	March 15, 2010	August 26, 2010
DISTRIBUTION DATE OF PUBLIC COMMENTS "FINAL ACTION AGENDA" (Limited distribution see notes)	April 16, 2010	September 27, 2010
FINAL ACTION HEARINGS (FAH)	**May 14 – 23, 2010** Dallas, TX	**Oct 28 – Nov 1, 1020** Charlotte, NC
ANNUAL CONFERENCES	**<u>October 24 – November 11, 2009</u>** 2009 ICC Annual Conference and Code Development Hearing Balitmore, MD **<u>October 25 – November 1, 2010</u>** 2010 ICC Annual Conference and Final Action Hearing Charlotte, NC	
RESULTING PUBLICATION	2012 – I-Codes (available April, 2011)	

Code Development Process Notes:

As noted in the posted Advisory Statement of February 4, 2009, the revised Code Development Process includes maintaining the current 3-year publication cycle with a single cycle of code development between code editions. Implemented as follows:

- Transitional Process – 2009/2010 only
    - Single Code Development Hearing (CDH) for all codes in 2009
    - Two Final Action Hearings (FAH) in 2010 – modified Groups A and B (see below)
    - Public 2012 edition in April, 2011
- New Process – 2012/2013 and going forward
    - Code Committee application deadline (all codes); June 1, 2011
    - Codes split into two groups: Group A and Group B
    - Group A: IBC; IFGC; IMC; IPC; IPSDC
        - Code change deadline: January 3, 2012
        - Code Development Hearing: April/May 2012
        - Final Action Hearing: October/November 2012 (in conjunction with Annual Conference)
    - Group B: Admin (Ch. 1 of I-Codes); IEBC; IECC; IFC; IPerfC; IPMC; IRC; IWUIC; IZC
        - Code change deadline: January 3, 2013
        - Code Development Hearing: April/May 2013
        - Final Action Hearing: October/November 2013 (in conjunction with Annual Conference)
    - Publish 2015 edition in April, 2014
    - Repeat for subsequent editions

2009/2010 Cycle Notes:

- Revised code change deadline of June 1st posted on March 19th

- Distribution date: Complimentary code development cycle document distribution will be limited to CD's mailed to those who are on ICC's code change document mailing list.

- Code Development Hearings: The Baltimore Code Development Hearings will include 12 I-Codes (no changes to the ICC Performance Code. The hearings will be held in the conventional two track format with the hearings split before and after the Annual Conference during the periods of October 24 – 31 and November 4 – 11. The specific codes and hearing order to be determined based on code change volume.

- Final Action Hearing Groupings: Final Action Hearing logistics dictate that the hearings will not be split along established Group A and B codes (see above) due to hotel commitments which limit the amount of hearing time at the October/2010 FAH versus the May/2010 FAH. Tentatively, the May/2010 FAH will include Group A codes plus certain Group B codes to be determined based on code change volume.

2009/2010 STAFF SECRETARIES

IBC-General Chapters 1-6. 12, 13, 27-34	IBC-Fire Safety Chapters 7, 8, 9, 14, 26	IBC-Means of Egress Chapters 10, 11	IBC-Structural Chapters 15-25
Kermit Robinson ICC Whittier District Office 1-888-ICC-SAFE, ext. 3317 FAX: 562/699-4522 krobinson@iccsafe.org	Ed Wirtschoreck ICC Chicago District Office 1-888-ICC-SAFE, ext 4317 FAX: 708/799-0320 ewirtschoreck@iccsafe.org	Kim Paarlberg ICC Indianapolis Field Office 1-888-ICC-SAFE, ext 4306 FAX: 708/799-0320 kpearlberg@iccsafe.org	Alan Carr ICC NW Resource Center 1-888-ICC-SAFE, ext 7601 FAX: 425/637-8939 acarr@iccsafe.org

IEBC	IECC	IFC	IFGC
BethTubbs ICC Northbridge Field Office 1-888-ICC-SAFE, ext 7708 FAX: 419/ 730-6531 btubbs@iccsafe.org	Dave Bowman ICC Chicago District Office 1-888-ICC-SAFE, ext 4323 FAX: 708/799-0320 dmeyers@iccsafe.org	Bill Rehr/ Beth Tubbs ICC Chicago District Office 1-888-ICC-SAFE, ext 4342 FAX: 708/799-0320 brehr@iccsafe.org btubbs@iccsafe.org	Gregg Gress ICC Chicago District Office 1-888-ICC-SAFE, ext 4343 FAX: 708/799-0320 ggress@iccsafe.org

IMC	ICC PC	IPMC	IPC/IPSDC
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IRC-Building/Energy	IRC Mechanical	IRC Plumbing	IWUIC
Larry Franks/ Dave Bowman ICC Northbridge Field Office 1-888-ICC-SAFE, ext 5279 FAX: 205/592-7001 lfranks@iccsafe.org dbowman@iccsafe.org	Gregg Gress ICC Chicago District Office 1-888-ICC-SAFE, ext 4343 FAX: 708/799-0320 ggress@iccsafe.org	Fred Grable ICC Chicago District Office 1-888-ICC-SAFE, ext 4359 FAX: 708/799-0320 fgrable@iccsafe.org	Bill Rehr ICC Chicago District Office 1-888-ICC-SAFE, ext 4342 FAX: 708/799-0320 brehr@iccsafe.org

IZC	ADMINISTRATIVE Chapter 1 All Codes Except IRC
Ed Wirtschoreck ICC Chicago District Office 1-888-ICC-SAFE, ext 4317 FAX: 708/799-0320 ewirtschoreck@iccsafe.org	Dave Bowman ICC Chicago District Office 1-888-ICC-SAFE, ext 4323 FAX: 708/799-0320 dbowman@iccsafe.org

SCOPING REVISIONS – WITHIN THE IBC

The 2009/2010 Staff Secretaries assignments on page ix indicate which chapters of the International Building Code are generally within the responsibility of each IBC Code Committee. However, within each of these IBC Chapters are subjects that are most appropriately maintained by another IBC Code Committee. For example, the provisions of Section 3008.1 deal with occupant evacuation elevators. Therefore, even though Chapter 30 is within the responsibility of the IBC General Committee, this section would most appropriately be maintained by the IBC Means of Egress Committee. The following table indicates responsibilities by IBC Code Committees other than the main committee for those chapters, for code changes submitted for the 2009/2010 Cycle.

SECTION	CHAPTER MAINTAINED BY	SECTION MAINTAINED BY	CODE CHANGES
403.2.3	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.2	IBC-General	IBC-Means of Egress	G46
403.5.4	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.4	IBC-General	IBC-Means of Egress	G47
403.6.1	IBC-General	IBC-Means of Egress	G48, G49
408.3.8	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
410.5.3.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
419.3.0	IBC-General	IBC-Means of Egress	G79
1505.1.0	IBC-Structural	IBC-Fire Safety	S10, S11
1505.8.0	IBC-Structural	IBC-Fire Safety	S12, S13
1507.16.0	IBC-Structural	IBC-Fire Safety	S10, S11
1508.1.0	IBC-Structural	IBC-Fire Safety	S24
1508.2.0	IBC-Structural	IBC-Fire Safety	S25
1509.0.0	IBC-Structural	IBC-General	S26, S27
1509.6.(new)	IBC-Structural	IBC-General	S28
1704.15.0	IBC-Structural	IBC-Fire Safety	S126, S127,S128
3007.1.0	IBC-General	IBC-Means of Egress	G48,G157
3007.2.(new)	IBC-General	IBC-Means of Egress	G158, G159
3007.2.0	IBC-General	IBC-Means of Egress	G160
3007.3.(new)	IBC-General	IBC-Means of Egress	G158, G161
3007.4.(new)	IBC-General	IBC-Means of Egress	G162
3007.4.2	IBC-General	IBC-Means of Egress	G163
3007.4.3	IBC-General	IBC-Means of Egress	G176
3007.5.1.(NEW)	IBC-General	IBC-Means of Egress	G164
3007.7.1	IBC-General	IBC-Means of Egress	G165, G166
3007.8.0	IBC-General	IBC-Means of Egress	G167
3008.1.0	IBC-General	IBC-Means of Egress	G168, G170
3008.1.1	IBC-General	IBC-Means of Egress	G169
3008.10.0	IBC-General	IBC-Means of Egress	G174
3008.10.1	IBC-General	IBC-Means of Egress	G175
3008.11.3	IBC-General	IBC-Means of Egress	G176
3008.11.5	IBC-General	IBC-Means of Egress	G177
3008.3.(NEW)	IBC-General	IBC-Means of Egress	G165, G166
3008.4.(NEW)	IBC-General	IBC-Means of Egress	G171
3008.4.0	IBC-General	IBC-Means of Egress	G46
3008.7.0	IBC-General	IBC-Means of Egress	G172
3008.9.0	IBC-General	IBC-Means of Egress	G173
3401.4.0	IBC-General	IBC-Structural	G190
3401.4.1	IBC-General	IBC-Structural	G191
3401.4.3	IBC-General	IBC-Structural	G190
3401.5.(NEW)	IBC-General	IBC-Structural	G192

SECTION	CHAPTER MAINTAINED BY	SECTION MAINTAINED BY	CODE CHANGES
3402.1.0	IBC-General	IBC-Structural	G193
3403.4.1	IBC-General	IBC-Structural	G190
3404.4.1	IBC-General	IBC-Structural	G190
3405.1.1	IBC-General	IBC-Structural	G192
3405.2.0	IBC-General	IBC-Structural	G193, G194
3405.2.1	IBC-General	IBC-Structural	G193, G190
3405.2.2	IBC-General	IBC-Structural	G193
3405.2.3	IBC-General	IBC-Structural	G193, G195
3405.3.0	IBC-General	IBC-Structural	G193
3405.4.0	IBC-General	IBC-Structural	G193, G194
3405.5.0	IBC-General	IBC-Structural	G196
3408.4.0	IBC-General	IBC-Structural	G190, G197
3408.4.0	IBC-General	IBC-Structural	G190
403.2.3	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.2	IBC-General	IBC-Means of Egress	G46
403.5.4	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
403.5.4	IBC-General	IBC-Means of Egress	G47
403.6.1	IBC-General	IBC-Means of Egress	G48, G49
408.3.8	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
410.5.3.1	IBC-General	IBC-Structural	E5 Part I (Heard by IBC-MOE)
419.3.0	IBC-General	IBC-Means of Egress	G79

ICC WEBSITE – WWW.ICCSAFE.ORG

While great care has been exercised in the publication of this document, errata to proposed changes may occur. Errata, if any, identified prior to the Code Development Hearings will be posted on the ICC website at http://www.iccsafe.org. Users are encouraged to periodically review the ICC Website for updates to errata to the 2009/2010 Code Development Cycle Proposed Changes. Additionally, analysis statements for code changes which propose a new referenced standard will be updated to reflect the staff review of the standard for compliance with Section 3.6 of the Procedures.

CP# 28-05 CODE DEVELOPMENT

Approved: 9/24/05
Revised: 2/27/09

CP # 28-05 is an update to *ICC's Code Development Process for the International Codes* dated May 15, 2004.

1.0 Introduction

1.1 Purpose: The purpose of this Council Policy is to prescribe the Rules of Procedure utilized in the continued development and maintenance of the International Codes (Codes).

1.2 Objectives: The ICC Code Development Process has the following objectives:

1.2.1 The timely evaluation and recognition of technological developments pertaining to construction regulations.
1.2.2 The open discussion of proposals by all parties desiring to participate.
1.2.3 The final determination of Code text by officials representing code enforcement and regulatory agencies and by honorary members.

1.3 Code Publication: The ICC Board of Directors (ICC Board) shall determine the title and the general purpose and scope of each Code published by the ICC.

1.3.1 Code Correlation: The provisions of all Codes shall be consistent with one another so that conflicts between the Codes do not occur. Where a given subject matter or code text could appear in more than one Code, the ICC Board shall determine which Code shall be the primary document, and therefore which code development committee shall be responsible for review and maintenance of the code text. Duplication of content or text between Codes shall be limited to the minimum extent necessary for practical usability of the Codes, as determined in accordance with Section 4.4.

1.4 Process Maintenance: The review and maintenance of the Code Development Process and these Rules of Procedure shall be by the ICC Board. The manner in which ICC codes are developed embodies core principles of the organization. One of those principles is that the final content of ICC codes is determined by a majority vote of the governmental and honorary members. It is the policy of the Board that there shall be no change to this principle without the affirmation of two-thirds of the governmental and honorary members responding.

1.5 Secretariat: The Chief Executive Officer shall assign a Secretariat for each of the Codes. All correspondence relating to code change proposals and public comments shall be addressed to the Secretariat.

1.6 Video Taping: Individuals requesting permission to video tape any meeting, or portion thereof, shall be required to provide the ICC with a release of responsibility disclaimer and shall acknowledge that they have insurance coverage for liability and misuse of video tape materials. Equipment and the process used to video tape shall, in the judgment of the ICC Secretariat, be conducted in a manner that is not disruptive to the meeting. The ICC shall not be responsible for equipment, personnel or any other provision necessary to accomplish the videotaping. An unedited copy of the video tape shall be forwarded to ICC within 30 days of the meeting.

2.0 Code Development Cycle

2.1 Intent: The code development cycle shall consist of the complete consideration of code change proposals in accordance with the procedures herein specified, commencing with the deadline for submission of code change proposals (see Section 3.5) and ending with publication of final action on the code change proposals (see Section 7.6).

2.2 New Editions: The ICC Board shall determine the schedule for publishing new editions of the Codes. Each new edition shall incorporate the results of the code development activity since the last edition.

2.3 Supplements: The results of code development activity between editions may be published.

2.4 Emergency Procedures: In the event that the ICC Board determines that an emergency amendment to any Code is warranted, the same may be adopted by the ICC Board. Such action shall require an affirmative vote of at least two-thirds of the ICC Board.

The ICC membership shall be notified within ten days after the ICC Boards' official action of any emergency amendment. At the next Annual Business Meeting, any emergency amendment shall be presented to the members for ratification by a majority of the ICC Governmental Member Representatives and Honorary Members present and voting.

All code revisions pursuant to these emergency procedures and the reasons for such corrective action shall be published as soon as practicable after ICC Board action. Such revisions shall be identified as an emergency amendment.

Emergency amendments to any Code shall not be considered as a retro-active requirement to the Code. Incorporation of the emergency amendment into the adopted Code shall be subjected to the process established by the adopting authority.

3.0 Submittal of Code Change Proposals

3.1 Intent: Any interested person, persons or group may submit a code change proposal which will be duly considered when in conformance to these Rules of Procedure.

3.2 Withdrawal of Proposal: A code change proposal may be withdrawn by the proponent (WP) at any time prior to Final Action Consideration of that proposal. A withdrawn code change proposal shall not be subject to a public hearing, motions, or Final Action Consideration.

3.3 Form and Content of Code Change Submittals: Each code change proposal shall be submitted separately and shall be complete in itself. Each submittal shall contain the following information:

3.3.1 Proponent: Each code change proposal shall include the name, title, mailing address, telephone number, and email address of the proponent.

3.3.1.1 If a group, organization or committee submits a code change proposal, an individual with prime responsibility shall be indicated.

3.3.1.2 If a proponent submits a code change on behalf of a client, group, organization or committee, the name and mailing address of the client, group, organization or committee shall be indicated.

3.3.2 Code Reference: Each code change proposal shall relate to the applicable code sections(s) in the latest edition of the Code.

3.3.2.1 If more than one section in the Code is affected by a code change proposal, appropriate proposals shall be included for all such affected sections.

3.3.2.2 If more than one Code is affected by a code change proposal, appropriate proposals shall be included for all such affected Codes and appropriate cross referencing shall be included in the supporting information.

3.3.3 Multiple code change proposals to a code section. A proponent shall not submit multiple code change proposals to the same code section. When a proponent submits multiple code change proposals to the same section, the proposals shall be considered as incomplete proposals and processed in accordance with Section 4.3. This restriction shall not apply to code change proposals that attempt to address differing subject matter within a code section.

3.3.4 Text Presentation: The text proposal shall be presented in the specific wording desired with deletions shown struck out with a single line and additions shown underlined with a single line.

3.3.4.1 A charging statement shall indicate the referenced code section(s) and whether the proposal is intended to be an addition, a deletion or a revision to existing Code text.

3.3.4.2 Whenever practical, the existing wording of the text shall be preserved with only such deletions and additions as necessary to accomplish the desired change.

3.3.4.3 Each proposal shall be in proper code format and terminology.

3.3.4.4 Each proposal shall be complete and specific in the text to eliminate unnecessary confusion or misinterpretation.

3.3.4.5 The proposed text shall be in mandatory terms.

3.3.5 Supporting Information: Each code change proposal shall include sufficient supporting information to indicate how the proposal is intended to affect the intent and application of the Code.

3.3.5.1 Purpose: The proponent shall clearly state the purpose of the proposed code change (e.g. clarify the Code; revise outdated material; substitute new or revised material for current provisions of the Code; add new requirements to the Code; delete current requirements, etc.)

3.3.5.2 Reasons: The proponent shall justify changing the current Code provisions, stating why the proposal is superior to the current provisions of the Code. Proposals which add or delete requirements shall be supported by a logical explanation which clearly shows why the current Code provisions are inadequate or overly restrictive, specifies the shortcomings of the current Code provisions and explains how such proposals will improve the Code.

3.3.5.3 Substantiation: The proponent shall substantiate the proposed code change based on technical information and substantiation. Substantiation provided which is reviewed in accordance with Section 4.2 and determined as not germane to the technical issues addressed in the proposed code change shall be identified as such. The proponent shall be notified that the proposal is considered an incomplete proposal in accordance with Section 4.3 and the proposal shall be held until the deficiencies are corrected. The proponent shall have the right to appeal this action in accordance with the policy of the ICC Board. The burden of providing substantiating material lies with the proponent of the code change proposal.

3.3.5.4 Bibliography: The proponent shall submit a bibliography of any substantiating material submitted with the code change proposal. The bibliography shall be published with the code change and the proponent shall make the substantiating materials available for review at the appropriate ICC office and during the public hearing.

3.3.5.5 Copyright Release: The proponent of code change proposals, floor modifications and public comments shall sign a copyright release reading: “I hereby grant and assign to ICC all rights in copyright I may have in any authorship contributions I make to ICC in connection with any proposal and public comment, in its original form submitted or revised form, including written and verbal modifications submitted in accordance Section 5.5.2. I understand that I will have no rights in any ICC publications that use such contributions in the form submitted by me or another similar form and certify that such contributions are not protected by the copyright of any other person or entity.”

3.3.5.6 Cost Impact: The proponent shall indicate one of the following regarding the cost impact of the code change proposal: 1) the code change proposal will increase the cost of construction; or 2) the code change proposal will not increase the cost of construction. This information will be included in the published code change proposal.

3.4 Number: One copy of each code change proposal, two copies of each proposed new referenced standard and one copy of all substantiating information shall be submitted. Additional copies may be requested when determined necessary by the Secretariat to allow such information to be distributed to the code development committee. Where such additional copies are requested, it shall be the responsibility of the proponent to send such copies to the respective code development committee. A copy of the code change proposal in electronic form is preferred.

3.5 Submittal Deadline: Each code change proposal shall be received at the office of the Secretariat by the posted deadline. Such posting shall occur no later than 120 days prior to the code change deadline. The submitter of a proposed code change is responsible for the proper and timely receipt of all pertinent materials by the Secretariat.

3.6 Referenced Standards: In order for a standard to be considered for reference or to continue to be referenced by the Codes, a standard shall meet the following criteria:

3.6.1 Code References:

3.6.1.1 The standard, including title and date, and the manner in which it is to be utilized shall be specifically referenced in the Code text.
3.6.1.2 The need for the standard to be referenced shall be established.

3.6.2 Standard Content:

3.6.2.1 A standard or portions of a standard intended to be enforced shall be written in mandatory language.
3.6.2.2 The standard shall be appropriate for the subject covered.
3.6.2.3 All terms shall be defined when they deviate from an ordinarily accepted meaning or a dictionary definition.
3.6.2.4 The scope or application of a standard shall be clearly described.
3.6.2.5 The standard shall not have the effect of requiring proprietary materials.
3.6.2.6 The standard shall not prescribe a proprietary agency for quality control or testing.
3.6.2.7 The test standard shall describe, in detail, preparation of the test sample, sample selection or both.
3.6.2.8 The test standard shall prescribe the reporting format for the test results. The format shall identify the key performance criteria for the element(s) tested.
3.6.2.9 The measure of performance for which the test is conducted shall be clearly defined in either the test standard or in Code text.
3.6.2.10 The standard shall not state that its provisions shall govern whenever the referenced standard is in conflict with the requirements of the referencing Code.
3.6.2.11 The preface to the standard shall announce that the standard is promulgated according to a consensus procedure.

3.6.3 Standard Promulgation:

3.6.3.1 Code change proposals with corresponding changes to the code text which include a reference to a proposed new standard or a proposed update of an existing referenced shall comply with this section. The standard shall be completed and readily available prior to Final Action Consideration based on the cycle of code development which includes the proposed code change proposal. In order for a new standard to be considered for reference by the Code, such standard shall be submitted in at least a consensus draft form in accordance with Section 3.4. Updating of standards without corresponding code text changes shall be accomplished administratively in accordance with Section 4.5.
3.6.3.2 The standard shall be developed and maintained through a consensus process such as ASTM or ANSI.

4.0 Processing of Proposals

4.1 Intent: The processing of code change proposals is intended to ensure that each proposal complies with these Rules of Procedure and that the resulting published proposal accurately reflects that proponent's intent.

4.2 Review: Upon receipt in the Secretariat's office, the code change proposals will be checked for compliance with these Rules of Procedure as to division, separation, number of copies, form, language, terminology, supporting statements and substantiating data. Where a code change proposal consists of multiple parts which fall under the maintenance responsibilities of different code committees, the Secretariat shall determine the code committee responsible for determining the committee action in accordance with Section 5.6.

4.3 Incomplete Proposals: When a code change proposal is submitted with incorrect format, without the required information or judged as not in compliance with these Rules of Procedure, the Secretariat shall notify the proponent of the specific deficiencies and the proposal shall be held until the deficiencies are corrected, with a final date set for receipt of a corrected submittal. If the Secretariat receives the corrected proposal after the final date, the proposal shall be held over until the next code development cycle. Where there are otherwise no deficiencies addressed by this section, a proposal that incorporates a new referenced standard shall be processed with an analysis of referenced standard's compliance with the criteria set forth in Section 3.6.

4.4 Editorial: The Chief Executive Officer shall have the authority at all times to make editorial and format changes to the Code text, or any approved changes, consistent with the intent, provisions and style of the Code. An editorial or format change is a text change that does not affect the scope or application of the code requirements.

4.5 Updating Standards:

4.5.1 Standards referenced in the 2012 Edition of the I-Codes: The updating of standards referenced by the Codes shall be accomplished administratively by the Administrative code development committee in accordance with these full procedures except that the deadline for availability of the updated standard and receipt by the Secretariat shall be December 1, 2011. The published version of the 2012 Code which references the standard will refer to the updated edition of the standard. If the standard is not available by the deadline, the edition of the standard as referenced by the newly published Code shall revert back to the reference contained in the previous edition and an errata to the Code issued Multiple standards to be updated may be included in a single proposal.

4.5.2 Standards referenced in the 2015 Edition and following Editions of the I-Codes: The updating of standards referenced by the Codes shall be accomplished administratively by the Administrative code development committee in accordance with these full procedures except that multiple standards to be updated may be included in a single proposal. The standard shall be completed and readily available prior to Final Action Consideration of the Administrative code change proposal which includes the proposed update.

4.6 Preparation: All code change proposals in compliance with these procedures shall be prepared in a standard manner by the Secretariat and be assigned separate, distinct and consecutive numbers. The Secretariat shall coordinate related proposals submitted in accordance with Section 3.3.2 to facilitate the hearing process.

4.7 Publication: All code change proposals shall be posted on the ICC website at least 30 days prior to the public hearing on those proposals and shall constitute the agenda for the public hearing. Code change proposals which have not been published shall not be considered.

5.0 Public Hearing

5.1 Intent: The intent of the public hearing is to permit interested parties to present their views including the cost and benefits on the code change proposals on the published agenda. The code development committee will consider such comments as may be presented in the development of their action on the disposition of such proposals. At the conclusion of the code development committee deliberations, the committee action on each code change proposal shall be placed before the hearing assembly for consideration in accordance with Section 5.7.

5.2 Committee: The Code Development Committees shall be appointed by the applicable ICC Council.

5.2.1 Chairman/Moderator: The Chairman and Vice-Chairman shall be appointed by the Steering Committee on Councils from the appointed members of the committee. The ICC President shall appoint one or more Moderators who shall act as presiding officer for the public hearing.

5.2.2 Conflict of Interest: A committee member shall withdraw from and take no part in those matters with which the committee member has an undisclosed financial, business or property interest. The committee member shall not participate in any committee discussion on the matter or any committee vote. Violation thereof shall result in the immediate removal of the committee member from the committee. A committee member who is a proponent of a proposal shall not participate in any committee discussion on the matter or any committee vote. Such committee member shall be permitted to participate in the floor discussion in accordance with Section 5.5 by stepping down from the dais.

5.2.3 Representation of Interest: Committee members shall not represent themselves as official or unofficial representatives of the ICC except at regularly convened meetings of the committee.

5.2.4 Committee Composition: The committee may consist of representation from multiple interests. A minimum of thirty-three and one-third percent (33.3%) of the committee members shall be regulators.

5.3 Date and Location: The date and location of each public hearing shall be announced not less than 60 days prior to the date of the public hearing.

5.4 General Procedures: *The Robert's Rules of Order* shall be the formal procedure for the conduct of the public hearing except as a specific provision of these Rules of Procedure may otherwise dictate. A quorum shall consist of a majority of the voting members of the committee.

5.4.1 Chair Voting: The Chairman of the committee shall vote only when the vote cast will break a tie vote of the committee.

5.4.2 Open Meetings: Public hearings of the Code Development Committees are open meetings. ` Any interested person may attend and participate in the Floor Discussion and Assembly Consideration portions of the hearing. Only eligible voters (see Section 5.7.4) are permitted to vote on Assembly Considerations. Only Code Development Committee members may participate in the Committee Action portion of the hearings (see Section 5.6).

5.4.3 Presentation of Material at the Public Hearing: Information to be provided at the hearing shall be limited to verbal presentations and modifications submitted in accordance with Section 5.5.2. Audio-visual presentations are not permitted. Substantiating material submitted in accordance with Section 3.3.4.4 and other material submitted in response to a code change proposal shall be located in a designated area in the hearing room and shall not be distributed to the code development committee at the public hearing.

5.4.4 Agenda Order: The Secretariat shall publish an agenda for each public hearing, placing individual code change proposals in a logical order to facilitate the hearing. Any public hearing attendee may move to revise the agenda order as the first order of business at the public hearing, or at any time during the hearing except while another proposal is being discussed. Preference shall be given to grouping like subjects together, and for moving items back to a later position on the agenda as opposed to moving items forward to an earlier position. A motion to revise the agenda order is subject to a 2/3 vote of those present and voting.

5.4.5 Reconsideration: There shall be no reconsideration of a proposed code change after it has been voted on by the committee in accordance with Section 5.6; or, in the case of assembly consideration, there shall be no reconsideration of a proposed code change after it has been voted on by the assembly in accordance with Section 5.7.

5.4.6 Time Limits: Time limits shall be established as part of the agenda for testimony on all proposed changes at the beginning of each hearing session. Each person requesting to testify on a change shall be given equal time. In the interest of time and fairness to all hearing participants, the Moderator shall have limited authority to modify time limitations on debate. The Moderator shall have the authority to adjust time limits as necessary in order to complete the hearing agenda.

5.4.6.1 Time Keeping: Keeping of time for testimony by an individual shall be by an automatic timing device. Remaining time shall be evident to the person testifying. Interruptions during testimony shall not be tolerated. The Moderator shall maintain appropriate decorum during all testimony.

5.4.6.2 Proponent Testimony: The Proponent is permitted to waive an initial statement. The Proponent shall be permitted to have the amount of time that would have been allocated during the initial testimony period plus the amount of time that would be allocated for rebuttal. Where the code change proposal is submitted by multiple proponents, this provision shall permit only one proponent of the joint submittal to be allotted additional time for rebuttal.

5.4.7 Points of Order: Any person participating in the public hearing may challenge a procedural ruling of the Moderator or the Chairman. A majority vote of the eligible voters as determined in Section 5.7.4 shall determine the decision.

5.5 Floor Discussion: The Moderator shall place each code change proposal before the hearing for discussion by identifying the proposal and by regulating discussion as follows:

5.5.1 Discussion Order:

1. *Proponents.* The Moderator shall begin by asking the proponent and then others in support of the proposal for their comments.
2. *Opponents.* After discussion by those in support of a proposal, those opposed hereto, if any, shall have the opportunity to present their views.
3. *Rebuttal in support.* Proponents shall then have the opportunity to rebut points raised by the opponents.
4. *Rerebuttal in opposition.* Opponents shall then have the opportunity to respond to the proponent's rebuttal.

5.5.2 Modifications: Modifications to proposals may be suggested from the floor by any person participating in the public hearing. The person proposing the modification is deemed to be the proponent of the modification.

5.5.2.1 Submission and Written Copies. All modifications must be written, unless determined by the Chairman to be either editorial or minor in nature. The modification proponent shall provide 20 copies to the Secretariat for distribution to the committee.

5.5.2.2 Criteria. The Chairman shall rule proposed modifications in or out of order before they are discussed on the floor. A proposed modification shall be ruled out of order if it:

1. is not legible, unless not required to be written in accordance with Section 5.5.2.1; or
2. changes the scope of the original proposal; or
3. is not readily understood to allow a proper assessment of its impact on the original proposal or the code.

The ruling of the Chairman on whether or not the modification is in or out of order shall be final and is not subject to a point of order in accordance with Section 5.4.7.

5.5.2.3 Testimony. When a modification is offered from the floor and ruled in order by the Chairman, a specific floor discussion on that modification is to commence in accordance with the procedures listed in Section 5.5.1.

5.6 Committee Action: Following the floor discussion of each code change proposal, one of the following motions shall be made and seconded by members of the committee.

1. Approve the code change proposal as submitted (AS) or
2. Approve the code change proposal as modified with specific modifications (AM), or
3. Disapprove the code change proposal (D)

Discussion on this motion shall be limited to Code Development Committee members. If a committee member proposes a modification which had not been proposed during floor discussion, the Chairman shall rule on the modification in accordance with Section 5.5.2.2 If a committee member raises a matter of issue, including a proposed modification, which has not been proposed or discussed during the floor discussion, the Moderator shall suspend the committee discussion and shall reopen the floor discussion for comments on the specific matter or issue. Upon receipt of all comments from the floor, the Moderator shall resume committee discussion.

The Code Development Committee shall vote on each motion with the majority dictating the committee's action. Committee action on each code change proposal shall be completed when one of the motions noted above has been approved. Each committee vote shall be supported by a reason.

The Code Development Committee shall maintain a record of its proceedings including the action on each code change proposal.

5.7 Assembly Consideration: At the conclusion of the committee's action on a code change proposal and before the next code change proposal is called to the floor, the Moderator shall ask for a motion from the public hearing attendees who may object to the committee's action. If a motion in accordance with Section 5.7.1 is not brought forward on the committee's action, the results of the public hearing shall be established by the committee's action. If a motion in accordance with Section 5.7.1 is brought forward and

is sustained in accordance with Section 5.7.3, both the committee's action and the assemblies' action shall be reported as the results of the public hearing. Where a motion is sustained in accordance with Section 5.7.3, such action shall be the initial motion considered at Final Action Consideration in accordance with Section 7.3.8.2.

5.7.1 Floor Motion: Any attendee may raise an objection to the committee's action in which case the attendee will be able to make a motion to:

1. Approve the code change proposal as submitted from the floor (ASF), or
2. Approve the code change proposal as modified from the floor (AMF) with a specific modification that has been previously offered from the floor and ruled in order by the Chairman during floor discussion (see Section 5.5.2) or has been offered by a member of the Committee and ruled in order by the Chairman during committee discussion (see Section 5.6), or
3. Disapprove the code change proposal from the floor (DF).

5.7.2 Discussion: On receipt of a second to the floor motion, the Moderator shall place the motion before the assembly for a vote. No additional testimony shall be permitted.

5.7.3 Assembly Action: The assembly action shall be in accordance with the following majorities based on the number of votes cast by eligible voters (See 5.7.4).

Committee Action	Desired Assembly Action		
	ASF	AMF	DF
AS	--	2/3 Majority	2/3 Majority
AM	2/3 Majority	2/3 Majority	2/3 Majority
D	2/3 Majority	2/3 Majority	--

5.7.4 Eligible Voters: All members of ICC in attendance at the public hearing shall be eligible to vote on floor motions. Only one vote authorized for each eligible attendee. Code Development Committee members shall be eligible to vote on floor motions. Application, whether new or updated, for ICC membership must be received by the Code Council ten days prior to the commencement of the first day of the public hearing.

5.8 Report of the Public Hearing: The results of the public hearing, including committee action and successful assembly action, shall be posted on the ICC website not less than 60 days prior to Final Action Consideration except as approved by the ICC Board.

6.0 Public Comments

6.1 Intent: The public comment process gives attendees at the Final Action Hearing an opportunity to consider specific objections to the results of the public hearing and more thoughtfully prepare for the discussion for Final Action Consideration. The public comment process expedites the Final Action Consideration at the Final Action Hearing by limiting the items discussed to the following:

6.1.1 Consideration of items for which a public comment has been submitted; and
6.1.2 Consideration of items which received a successful assembly action at the public hearing.

6.2 Deadline: The deadline for receipt of a public comment to the results of the public hearing shall be announced at the public hearing but shall not be less than 30 days from the availability of the report of the results of the public hearing (see Section 5.8).

6.3 Withdrawal of Public Comment: A public comment may be withdrawn by the public commenter at any time prior to Final Action Consideration of that comment. A withdrawn public comment shall not be subject to Final Action Consideration. If the only public comment to a code change proposal is withdrawn by the public commenter prior to the vote on the consent agenda in accordance with Section 7.3.4, the proposal shall be considered as part of the consent agenda. If the only public comment to a code change proposal is withdrawn by the public commenter after the vote on the consent agenda in accordance with Section 7.3.4, the proposal shall continue as part of the individual consent agenda in accordance with Section 7.3.5, however the public comment shall not be subject to Final Action Consideration.

6.4 Form and Content of Public Comments: Any interested person, persons, or group may submit a public comment to the results of the public hearing which will be considered when in conformance to these requirements. Each public comment to a code change proposal shall be submitted separately and shall be complete in itself. Each public comment shall contain the following information:

6.4.1 Public comment: Each public comment shall include the name, title, mailing address, telephone number and email address of the public commenter. If group, organization, or committee submits a public comment, an individual with prime responsibility shall be indicated. If a public comment is submitted on behalf a client, group, organization or committee, the name and mailing address of the client, group, organization or committee shall be indicated. The scope of the public comment shall be consistent with the scope of the original code change proposal, committee action or successful assembly action. Public comments which are determined as not within the scope of the code change proposal, committee action or successful assembly action shall be identified as such. The public commenter shall be notified that the public comment is considered an incomplete public comment in accordance with Section 6.5.1 and the public comment shall be held until the deficiencies are corrected. A copyright release in accordance with Section 3.3.4.5 shall be provided with the public comment.

6.4.2 Code Reference: Each public comment shall include the code change proposal number and the results of the public hearing, including successful assembly actions, on the code change proposal to which the public comment is directed.

6.4.3 Multiple public comments to a code change proposal. A proponent shall not submit multiple public comments to the same code change proposal. When a proponent submits multiple public comments to the same code change proposal, the public comments shall be considered as incomplete public comments and processed in accordance with Section 6.5.1. This restriction shall not apply to public comments that attempt to address differing subject matter within a code section.

6.4.4 Desired Final Action: The public comment shall indicate the desired final action as one of the following:

1. Approve the code change proposal as submitted (AS), or
2. Approve the code change proposal as modified (AM) by one or more specific modifications published in the Results of the Public Hearing or published in a public comment, or
3. Disapprove the code change proposal (D)

6.4.5 Supporting Information: The public comment shall include in a statement containing a reason and justification for the desired final action on the code change proposal. Reasons and justification which are reviewed in accordance with Section 6.4 and determined as not germane to the technical issues addressed in the code change proposal or committee action shall be identified as such. The public commenter shall be notified that the public comment is considered an incomplete public comment in accordance with Section 6.5.1 and the public comment shall be held until the deficiencies are corrected. The public commenter shall have the right to appeal this action in accordance with the policy of the ICC Board. A bibliography of any substantiating material submitted with a public comment shall be published with the public comment and the substantiating material shall be made available at the Final Action Hearing.

6.4.6 Number: One copy of each public comment and one copy of all substantiating information shall be submitted. Additional copies may be requested when determined necessary by the Secretariat. A copy of the public comment in electronic form is preferred.

6.5 Review: The Secretariat shall be responsible for reviewing all submitted public comments from an editorial and technical viewpoint similar to the review of code change proposals (See Section 4.2).

6.5.1 Incomplete Public Comment: When a public comment is submitted with incorrect format, without the required information or judged as not in compliance with these Rules of Procedure, the public comment shall not be processed. The Secretariat shall notify the public commenter of the specific deficiencies and the public comment shall be held until the deficiencies are corrected, or the public comment shall be returned to the public commenter with instructions to correct the deficiencies with a final date set for receipt of the corrected public comment.

6.5.2 Duplications: On receipt of duplicate or parallel public comments, the Secretariat may consolidate such public comments for Final Action Consideration. Each public commenter shall be notified of this action when it occurs.

6.5.3 Deadline: Public comments received by the Secretariat after the deadline set for receipt shall not be published and shall not be considered as part of the Final Action Consideration.

6.6 Publication: The public hearing results on code change proposals that have not been public commented and the code change proposals with public commented public hearing results and successful assembly actions shall constitute the Final Action Agenda. The Final Action Agenda shall be posted on the ICC website at least 30 days prior to Final Action consideration.

7.0 Final Action Consideration

7.1 Intent: The purpose of Final Action Consideration is to make a final determination of all code change proposals which have been considered in a code development cycle by a vote cast by eligible voters (see Section 7.4).

7.2 Agenda: The final action consent agenda shall be comprised of proposals which have neither an assembly action nor public comment. The agenda for public testimony and individual consideration shall be comprised of proposals which have a successful assembly action or public comment (see Sections 5.7 and 6.0).

7.3 Procedure: *The Robert's Rules of Order* shall be the formal procedure for the conduct of the Final Action Consideration except as these Rules of Procedure may otherwise dictate.

7.3.1 Open Meetings: Public hearings for Final Action Consideration are open meetings. Any interested person may attend and participate in the Floor Discussion.

7.3.2 Agenda Order: The Secretariat shall publish an agenda for Final Action Consideration, placing individual code change proposals and public comments in a logical order to facilitate the hearing. The proponents or opponents of any proposal or public comment may move to revise the agenda order as the first order of business at the public hearing, or at any time during the hearing except while another proposal is being discussed. Preference shall be given to grouping like subjects together and for moving items back to a later position on the agenda as opposed to moving items forward to an earlier position. A motion to revise the agenda order is subject to a 2/3 vote of those present and voting.

7.3.3 Presentation of Material at the Public Hearing: Information to be provided at the hearing shall be limited to verbal presentations. Audio-visual presentations are not permitted. Substantiating material submitted in accordance with Section 6.4.4 and other material submitted in response to a code change proposal or public comment shall be located in a designated area in the hearing room.

7.3.4 Final Action Consent Agenda: The final action consent agenda (see Section 7.2) shall be placed before the assembly with a single motion for final action in accordance with the results of the public hearing. When the motion has been seconded, the vote shall be taken with no testimony being allowed. A simple majority (50% plus one) based on the number of votes cast by eligible voters shall decide the motion.

7.3.5 Individual Consideration Agenda: Upon completion of the final action consent vote, all proposed changes not on the final action consent agenda shall be placed before the assembly for individual consideration of each item (see Section 7.2).

7.3.6 Reconsideration: There shall be no reconsideration of a proposed code change after it has been voted on in accordance with Section 7.3.8.

7.3.7 Time Limits: Time limits shall be established as part of the agenda for testimony on all proposed changes at the beginning of each hearing session. Each person requesting to testify on a change shall be given equal time. In the interest of time and fairness to all hearing participants, the Moderator shall have limited authority to modify time limitations on debate. The Moderator shall have the authority to adjust time limits as necessary in order to complete the hearing agenda.

7.3.7.1 Time Keeping: Keeping of time for testimony by an individual shall be by an automatic timing device. Remaining time shall be evident to the person testifying. Interruptions during testimony shall not be tolerated. The Moderator shall maintain appropriate decorum during all testimony.

7.3.8 Discussion and Voting: Discussion and voting on proposals being individually considered shall be in accordance with the following procedures:

7.3.8.1 Allowable Final Action Motions: The only allowable motions for final action are Approval as Submitted, Approval as Modified by one or more modifications published in the Final Action Agenda, and Disapproval.

7.3.8.2 Initial Motion: The Code Development Committee action shall be the initial motion considered, unless there was a successful assembly action in accordance with Section 5.7.3. If there was a successful assembly action, it shall be the initial motion considered. If the assembly action motion fails, the code development committee action shall become the next motion considered.

7.3.8.3 Motions for Modifications: Whenever a motion under consideration is for Approval as Submitted or Approval as Modified, a subsequent motion and second for a modification published in the Final Action Agenda may be made (see Section 6.4.3). Each subsequent motion for modification, if any, shall be individually discussed and voted before returning to the main motion. A two-thirds majority based on the number of votes cast by eligible voters shall be required for a successful motion on all modifications.

7.3.8.4 Voting: After dispensing with all motions for modifications, if any, and upon completion of discussion on the main motion, the Moderator shall then ask for the vote on the main motion. If the motion fails to receive the majority required in Section 7.5, the Moderator shall ask for a new motion.

7.3.8.5 Subsequent Motion: If the initial motion is unsuccessful, a motion for one of the other allowable final actions shall be made (see Section 7.3.8.1) and dispensed with until a successful final action is achieved. If a successful final action is not achieved, Section 7.5.1 shall apply.

7.3.9 **Proponent testimony:** The Proponent of a public comment is permitted to waive an initial statement. The Proponent of the public comment shall be permitted to have the amount of time that would have been allocated during the initial testimony period plus the amount of time that would be allocated for rebuttal. Where a public comment is submitted by multiple proponents, this provision shall permit only one proponent of the joint submittal to waive an initial statement.

7.3.10 **Points of Order:** Any person participating in the public hearing may challenge a procedural ruling of the Moderator. A majority vote of the eligible voters as determined in Section 5.7.4 shall determine the decision.

7.4 **Eligible voters:** ICC Governmental Member Representatives and Honorary Members in attendance at the Final Action Hearing shall have one vote per eligible attendee on all International Codes. Applications, whether new or updated, for governmental member voting representative status must be received by the Code Council ten days prior to the commencement of the first day of the Final Action Hearing in order for any designated representative to be eligible to vote.

7.5 **Majorities for Final Action:** The required voting majority based on the number of votes cast of eligible voters shall be in accordance with the following table:

Public Hearing Action (see note)	**Desired Final Action**		
	AS	**AM**	**D**
AS	Simple Majority	2/3 Majority	Simple Majority
AM	2/3 Majority	Simple Majority to sustain the Public Hearing Action or; 2/3 Majority on additional modifications and 2/3 on overall AM	Simple Majority
D	2/3 Majority	2/3 Majority	Simple Majority

Note: The Public Hearing Action includes the committee action and successful assembly action.

7.5.1 **Failure to Achieve Majority Vote:** In the event that a code change proposal does not receive any of the required majorities for final action in Section 7.5, final action on the code change proposal in question shall be disapproval.

7.6 **Publication:** The Final action on all proposed code changes shall be published as soon as practicable after the determination of final action. The exact wording of any resulting text modifications shall be made available to any interested party.

8.0 Appeals

8.1 **Right to Appeal:** Any person may appeal an action or inaction in accordance with CP-1.

2009/2010 ICC CODE DEVELOPMENT CYCLE
CROSS INDEX OF PROPOSED CODE CHANGES

Some of the proposed code changes include sections that are outside of the scope of the chapters or the code listed in the table of 2009/2010 Staff Secretaries on page ix. This is done in order to facilitate coordination among the International Codes which is one of the fundamental principles of the International Codes.

Listed in this cross index are proposed code changes that include sections of codes or codes other than those listed on page ix. For example, IBC Section 402.16.5 is proposed for revision in Part II of code change F58-09/10, which is to be heard by the IFC Committee. This section of the IBC is typically the responsibility of the IBC General Committee as listed in the table of 2009/2010 Staff Secretaries. It is therefore identified in this cross index. Another example is Section 905.4 of the International Fire Code. The International Fire Code is normally maintained by the IFC Committee, but Section 905.4 will be considered for revision in proposed code change G31-09/10 and will be placed on the IBC General Committee agenda. In some instances, there are other subsections that are revised by an identified code change that is not included in the cross index. For example, numerous sections in Chapter 10 of the International Fire Code would be revised by the proposed changes to Chapter 10 of the IBC. This was done to keep the cross index brief enough for easy reference.

This information is provided to assist users in locating all of the proposed code changes that would affect a certain section or chapter. For example, to find all of the proposed code changes that would affect Chapter 7 of the IBC, review the proposed code changes in the Volume 1 monograph for the IBC Fire Safety Committee (listed with a FS prefix) then review this cross reference for Chapter 7 of the IBC for proposed code changes published in other code change groups. While care has been taken to be accurate, there may be some omissions in this list.

Letter prefix: Each proposed change number has a letter prefix that will identify where the proposal is published. The letter designations for proposed changes and the corresponding publications are as follows:

PREFIX	**PROPOSED CHANGE GROUP (see monograph table of contents for location)**
ADM	Administrative
E	International Building Code - Means of Egress
EB	International Existing Building Code
EC	International Energy Conservation Code
F	International Fire Code
FG	International Fuel Gas Code
FS	International Building Code - Fire Safety
G	International Building Code - General
M	International Mechanical Code
PC	ICC Performance Code
P	International Plumbing Code
PSD	International Private Sewage Disposal Code
PM	International Property Maintenance Code
RB	International Residential Code - Building
RE	International Residential Code - Energy
RM	International Residential Code - Mechanical
RP	International Residential Code - Plumbing
S	International Building Code - Structural
WUIC	International Wildland-Urban Interface Code
Z	International Zoning Code

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R903.4	S2-09/10, Part III (heard by IRC Plumbing)
R903.4.1	S2-09/10, Part III (heard by IRC Plumbing)
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R905.2.7.2	S15-09/10, Part II
R905.2.8.5 (New)	S16-09/10, Part II
R905.3.3.3	S15-09/10, Part II
R905.4.3.2 (New)	S15-09/10, Part II
R905.4.5.1 (New)	S17-09/10, Part II
R905.5.3.2 (New)	S15-09/10, Part II
R905.6.3.2 (New)	S15-09/10, Part II
R905.7.3.2 (New)	S15-09/10, Part II
R905.8.3.2 (New)	S15-09/10, Part II
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R905.15.3	S21-09/10, Part II
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R905.16.1 (New)	S22-09/10, Part III, S23-09/10. Part II
R905.16.1.1 (New)	S23-09/10, Part II
R905.16.2 (New)	S22-09/10, Part III
R905.16.3 (New)	S22-09/10, Part III
R907.3	S30-09/10, Part II
R1003.9.1 (New)	S182-09/10, Part II
R1003.9.3 (New)	S182-09/10, Part II
R1003.11.1	M114 PII
R1005.7	M117 PII
R1004.2	M119 PII
T N1101.2	EC1 Part II
N1101.4.2.1(New)	EC2 Part II
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N1101.7	EC28
N1101.9	EC22 Part II, EC23 Part II
N1102	EC26
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N1102.2.2.1(New)	EC64 Part II
N1102.2.3 (New)	EC63 Part II
Table N1102.2.5	EC66 Part II
N1102.2.11	EC68 Part II
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Table N1102.4.2	EC26 Part II, EC59 Part II
Table N1102.1.4 (New) N1102.1.4(New)	EC57 Part II
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N1102.3.3 (New)	EC72 Part II
N1102.3.3 (New)	EC73 Part II
N1102.3.3 (New)	EC74 Part II
N1102.3.4	EC76 Part II
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N1102.4.1	EC79, EC82, EC83
N1102.4.1.1(New)	EC79 Part II
N1102.4.1.2 (New)	EC79 Part II
N1102.4.2	EC81, EC82, EC83, EC86, EC90

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N1102.4.2.1.1 (New)	EC80 Part II
N1102.4.2.1.1 (New)	EC87 Part II
N1102.4.3	EC79 Part II, EC89 Part II
N1102.4.4	EC91 Part II
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N1103.1.1	EC101 Part II
N1103.1.3 (New)	EC100 Part II
N1103.2.1	EC103 Part II
N1103.2.2	EC103, EC104, EC107 (All Part II)
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N1103.2.3	EC103 Part II, EC109 Part II,
N1103.3	EC117 Part II
N1103.3	EC123 Part II
N1103.4	EC115 Part II, EC116
N1103.4 (New)	EC114 Part II
N1103.4 (New)	EC118 Part II
N1103.4.1	EC112 Part II
N1103.4.2	EC112 Part II
N1103.5	EC79 Part II, EC131 Part II
N1103.5 (New)	EC119 Part II
N1103.5.1	EC99 Part II
N1103.6	EC120 Part II
T N1103.6 (New)	EC121 Part II
N1103.8	EC124 Part II
N1103.9	EC125 Part II
N1103.10 (New)	EC126 Part II
N1104 (New)	EC131 Part II
N1104.1	EC127, EC129, EC130 (All Part II)
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M1303.1	M6 PII
M1303.1	FG10 PIII
M1307.3, P2801.6	M10 PII
M1401.1	M9 PII
M1407.1	M121 PII
M1411.5	FG11 PIII
M1411.6	M130 PII, M131 PII
M1411.6.1	M133 PII
M1413.1	M126 PII
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M1502.4.1	M35 PII, M36 PII
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M1502.4.4.2	M38 PII
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M1503.1	M45 PII
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M1601.1.1	M97 PII
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M2001.1.1	M128 PII
Table M2101.1	M140 PII, M141 PII, M142 PII
M2104.5	M148 PII
M2201.5	M151 PII
M2201.5	M151 PII
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P2503.6	P18 Part II
P2503.8.2	P19 Part II, P106 Part II
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P2603.3	P8 Part II
P2603.4	P16 Part II
P2603.5	P10 Part II
Table P2605.1	P70 Part II
P2608.1	P7 Part II
P2608.4	P7 Part II
Table P2608.4	P7 Part II
Table P2701.1	P37 Part II
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P2708.1.1	P52 Part II
P2708.4 (New)	P53 Part II
P2709.2.1	P54 PartII
P2709.2.2	P54 PartII
P2709.2.4 (New)	P55 PartII
P2713.1	P40 Part II, P41 Part II
P2721.2	P42 Part II
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P2724.1 (New)	P61 Part II
P2803.6	P62 Part II
P2803.6 (New)	P63 Part II
P2803.6.1	P64 Part II
P2801.1.2	EC122 Part II
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P2801.5.1	P67 Part II
P2801.5.3 (New)	P158 Part II
P2901.1	P87 Part II
P2902.1	P102 Part II
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P2902.3.3	P103 Part II
P2902.3.4	P96 Part II, P104 Part II
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P2902.4.3	P86 Part II
P2902.5.1	P103 Part II
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P2902.5.3	P100 Part II

IRC (continued)	
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P2902.5.4.1	P99 Part II
P2902.5.5	P94 Part II
P2902.6	P90 Part II
P2903.3.1	P157 Part II
P2903.5	P72 Part II
P2503.5.1	P156 Part II
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P2903.11 (New)	P75 Part II
P2904.3.1	P70 Part II
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Table P2905.4	P68 Part II, P70 Part II
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Table P2905.6	P70 Part II
P2905.9.1.2	P84 Part II
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P2905.19.1(New)	P70 Part II
P2905.19.2 (New)	P70 Part II
P2908.1	P108 Part II
P2908.2	P108 Part II
P3001.4 (New)	P109 Part II
P3002.3.1	P111 Part II
P3003.9.2	P110 Part II
P3003.14.2	P110 Part II
P3003.19	P36 Part II
P3007.3.2.1 (New)	P114 Part II
P3007.3.3 (New)	P115 Part II
P3007.3.3.1 (New)	P115 Part II
P3007.3.3.2 (New)	P115 Part II
P3007.3.5	P116 Part II
P3009 (New)	P152 Part II
P3103.4	P124 Part II
P3103.5	P159 Part II
P3111.2	P128 Part II
P3111.3	P127 Part II
P3113.4.1	P131 Part II
P3201.5	P135 Part II
P3201.2	P136 Part II
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Appendix L	G204 Part II

INT. WILDLAND-URBAN INTERFACE CODE	
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101.3	ADM3
102.4	ADM4
115 (New)	ADM16 Part I
Chapter 15	ADM39
INTERNATIONAL ZONING CODE	
Chapter 1	ADM1 Part XI
101.2	ADM3
112 (New)	ADM16 Part I
Chapter 14	ADM39

2009/2010 ICC CODE DEVELOPMENT HEARING SCHEDULE

October 24 – November 11, 2009
Hilton Baltimore

Unless noted by "Start no earlier than X am/pm," each Code Committee will begin immediately upon completion of the hearings for the prior Committee. Thus the actual start times for the various Code Committees are tentative. The hearing volume is higher than previous cycles. The schedule anticipates that the hearings will finish by the times noted as "Finish" for each track and each week.

CODE DEVELOPMENT HEARINGS: OCTOBER 24 - 31

	Saturday October 24	Sunday October 25	Monday October 26	Tuesday October 27	Wednesday October 28	Thursday October 29	Friday October 30	Saturday October 31
TRACK 1	Start 8 am IWUIC IFC End 8 pm	Start 10 am IFC End 8 pm	Start 8 am IFC IRC-Energy (Start no earlier than 1 pm) End 8 pm	Start 8 am IRC – Energy End 8 pm	Start 8 am IRC-Building (Start no earlier than 8 am) End 8 pm	Start 8 am IRC- Building End 8 pm	Start 8 am IRC – Building Admin (Start no earlier than 3 pm) End 8 pm	Start 8 am Admin Finish 3 pm
TRACK 2	Start 8 am IBC-Structural End 8 pm	Start 10 am IBC-Structural End 8 pm	Start 8 am IBC-Structural End 8 pm	Start 8 am IBC-Structural End 8 pm	Start 8 am IECC (Start no earlier than 8 am) End 8 pm	Start 8 am IECC End 8 pm	Start 8 am IECC End 8 pm	Start 8 am IECC Finish 8 pm

ANNUAL CONFERENCE: NOVEMBER 1 - 4

CODE DEVELOPMENT HEARINGS: NOVEMBER 4 - 11

	Wednesday November 4	Thursday November 5	Friday November 6	Saturday November 7	Sunday November 8	Monday November 9	Tuesday November 10	Wednesday November 11
TRACK 1	Start 8 am IPM/ZC IEBC IBC-Fire Safety End 5 pm	Start 8 am IBC-Fire Safety End 8 pm	Start 8 am IBC – Fire Safety IBC – General (Start no earlier than 3 pm) End 8 pm	Start 8 am IBC - General End 8 pm	Start 10 am IBC – General IBC – Egress (Start no earlier than 3 pm) End 8 pm	Start 8 am IBC - Egress End 8 pm	Start 8 am IBC - Egress End 8 pm	Start 8 am IBC - Egress Finish 12 pm
TRACK 2	Start 8 am IPC/IPSDC End 5 pm	Start 8 am IPC/IPSDC End 9 pm	Start 8 am IMC (Start no earlier than 8 am) End 9 pm	Start 8 am IMC IRC-Plumbing/ Mechanical (Start no earlier than 1 pm) End 9 pm	Start 10 am IRC – Plumbing/ Mechanical End 9 pm	Start 8 am IRC – Plumbing/ Mechanical IFGC (Start no earlier than 8 am) Finish 9 pm	NO HEARINGS TRACK 2 COMPLETED	

Notes:

1. Hearing times may be modified at the discretion of the Chairman. Breaks will be announced.
2. Proposed code changes submitted to the International Wildland-Urban Interface Code (IWUIC) to be heard by the IFC Committee.
3. Proposed code changes submitted to the International Zoning (Z) and Property Maintenance (PM) Codes to be heard by the IPM/Z Committee.
4. "Admin" is a new code committee who will hear changes that affect coordination of Chapter 1 of all the I-Codes, except the IRC, and referenced standards updates.

2009/2010 PROPOSED CHANGES TO THE INTERNATIONAL CODES

Registration
Delegate

2009 Annual Conference and
Code Development Hearings

Hearings: October 24–31 and November 4–11
Hilton Baltimore

Conference: November 1–4
Baltimore Convention Center

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☐ Code Development Hearings only (Registration is required to verify voting status)	FREE Registration		FREE Registration	
☐ One-Day Education ☐ Monday, November 2 ☐ Tuesday, November 3	$125	$160	$160	$190
☐ Golf Tournament (per person)** Handicap _____	$75	$75	$125	$125
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Session selection: # _____

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☐ Department of Community Affairs, Division of Codes and Standards
ID Number _____

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Requires Social Security # _____
FDID #/City Code _____
County Code _____
ID Number _____

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☐ Code Officials Qualification Board
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☐ Ohio Department of Commerce, Division of Industrial Compliance, Plumbing Section
ID Number _____

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ID Number _____

PENNSYLVANIA
☐ Department of Labor and Industry
ID Number _____

RHODE ISLAND
☐ State Building Code Commission
ID Number _____

SOUTH CAROLINA
☐ Department of Labor, Licensing and Regulation Board of Building Codes Council
ID Number _____

TENNESSEE
☐ Commerce and Insurance, Fire Prevention Division (aka State Fire Marshal's Office)
ID Number _____

TEXAS
☐ Department of Licensing and Regulation, Electrical Safety and Licensing Advisory Board
ID Number _____

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☐ Division of Occupational and Professional Licensing, Contractor Licensing
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TENTATIVE ORDER OF DISCUSSION

2009-2010 PROPOSED CHANGES TO THE INTERNATIONAL RESIDENTIAL CODE

PLUMBING/MECHANICAL

The following is the tentative order in which the proposed changes to the code will be discussed at the public hearings. Proposed changes which impact the same subject have been grouped to permit consideration in consecutive changes.

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation **does not** necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair.

IRC PLUMBING

- P7-09/10 Part II
- P8-09/10 Part II
- P10-09/10 Part II
- P16-09/10 Part II

RP1-09/10

- P18-09/10 Part II
- P156-09/10 Part II
- P19-09/10 Part II
- P36-09/10 Part II
- P37-09/10 Part II
- P40-09/10 Part II
- P41-09/10 Part II

RP7-09/10

- P42-09/10 Part II
- P52-09/10 Part II
- P53-09/10 Part II
- P54-09/10 Part II
- P55-09/10 Part II

RP8-09/10

RP4-09/10

RP5-09/10

RP2-09/10

- P60-09/10 Part II
- P61-09/10 Part II
- P62-09/10 Part II
- P63-09/10 Part II
- P64-09/10 Part II
- P65-09/10 Part II
- P66-09/10 Part II
- P67-09/10 Part II
- P68-09/10 Part II
- P69-09/10 Part II
- P70-09/10 Part II
- P71-09/10 Part II
- P72-09/10 Part II
- P73-09/10 Part II

RP6-09/10

- P75-09/10 Part II

RP9-09/10

RP10-09/10

RP11-09/10

RP12-09/10

RP13-09/10

RP14-09/10

RP15-09/10

- P83-09/10 Part II
- P84-09/10 Part II
- P86-09/10 Part II
- P87-09/10 Part II
- P90-09/10 Part II
- P154-09/10 Part II
- P92-09/10 Part II
- P93-09/10 Part II
- P94-09/10 Part II
- P95-09/10 Part II
- P96-09/10 Part II
- P99-09/10 Part II
- P100-09/10 Part II
- P102-09/10 Part II
- P103-09/10 Part II
- P104-09/10 Part II
- P106-09/10 Part II
- P108-09/10 Part II
- P109-09/10 Part II
- P110-09/10 Part II
- P111-09/10 Part II
- P114-09/10 Part II
- P115-09/10 Part II
- P116-09/10 Part II
- P121-09/10 Part II

RP3-09/10

- P159-09/10 Part II
- P124-09/10 Part II
- P127-09/10 Part II
- P128-09/10 Part II
- P131-09/10 Part II
- P135-09/10 Part II
- P136-09/10 Part II
- EC122-09/10 Part II
- S2-09/10 Part III
- P152-09/10 Part II
- P157-09/10 Part II
- P158-09/10 Part II
- P160-09/10 Part II
- P153-09/10 Part II

IRC MECHANICAL

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- M6-09/10, Part II
- M9-09/10, Part II
- M10-09/10, Part II

RM1-09/10

RM2-09/10

RM3-09/10

RM4-09/10

RM5-09/10

- M121-09/10, Part II

RM6-09/10

RM7-09/10

- M130-09/10, Part II
- M131-09/10, Part II
- M133-09/10, Part II

RM8-09/10

- M126-09/10, Part II

RM9-09/10

RM10-09/10

- M35-09/10, Part II
- M36-09/10, Part II

RM11-09/10

RM12-09/10

- M38-09/10, Part II
- M39-09/10, Part II
- M40-09/10, Part II

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- M45-09/10, Part II

RM14-09/10

- M46-09/10, Part II

RM15-09/10

RM16-09/10

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RM18-09/10

RM19-09/10

- M31-09/10, Part II

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- M102-09/10, Part II
- M103-09/10, Part II

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- M98-09/10, Part II
- M105-09/10, Part II
- M110-09/10, Part II
- M111-09/10, Part II
- M112-09/10, Part II

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RM30-09/10

RM31-09/10

RM32-09/10

RM33-09/10

RM34-09/10

- M128-09/10, Part II

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- M127-09/10, Part II

RM37-09/10

- M140-09/10, Part II
- M141-09/10, Part II
- M142-09/10, Part II
- M148-09/10, Part II

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- M114-09/10, Part II
- M117-09/10, Part II
- M119-09/10, Part II
- M151-09/10, Part II
- M152-09/10, Part II

RP1–09/10
P2503.5.1

Proponent: Michael Cudahy, Plastic Pipe and Fittings Association (PPFA) for Plastic Pipe and Fittings Association (PPFA).

Revise as follows:

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or, for piping systems other than plastic, by air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:

1. Water test. Each section shall be filled with water to a point not less than 10 feet (3048 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

Reason: To carry over the language on air testing of plastic piping systems from the IPC to the IRC. This change would correct an oversight in the IRC section. IPC Section 312.1 "Required tests", contains the specific language: **"**All plumbing system piping shall be tested with either water or, for piping systems other than plastic, by air. After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be submitted to final tests." The reason for this language is that under some conditions, air testing poses additional risks for installers. The IRC should reflect the same language as found in the IPC.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Cudahy-RP1-P2503.5.1

RP2–09/10
Table P2701.1

Proponent: Abraham I. Murra, Canadian Standards Association, representing the Canadian Standards Association

Revise table as follows:

TABLE P2701.1
PLUMBING FIXTURES, FAUCETS AND FIXTURE FITTINGS

MATERIAL	STANDARD
Macerating toilet systems and related components	ASME A112.3.4, CSA B45.9

(Portions of table not shown remain unchanged)

Reason: The acceptance of the proposed change will enable manufacturers with products certified to CSA B45.9 to have their products used as options to products that meet the requirements of ASME A112.3.4. This change will also allow the authorities having jurisdiction to allow the use of products that meet either CSA B45.9 or ASME A112.3.4. The standard is already referenced in IRC Section P3007.5.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Murra-RP6-TP2701.1

RP3–09/10
P2702.1, P2706.1

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

Revise as follows:

P2702.1 Plumbing fixtures. Plumbing fixtures, other than water closets, shall be provided with approved strainers.

Exception: Hub drains and standpipes.

P2706.1 General. Every waste receptor shall be of an approved type. Plumbing fixtures or other receptors receiving the discharge of indirect waste pipes shall be shaped and have a capacity to prevent splashing or flooding and shall be readily accessible for inspection and cleaning. Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. A removable strainer or basket shall cover the waste outlet of waste receptors. Waste receptors shall be installed in ventilated spaces. Waste receptors shall not be installed in bathrooms or in any inaccessible or unventilated space such as a closet. Ready access shall be provided to waste receptors.

Exceptions:

1. Open hub waste receptors shall be permitted in the form of a hub or pipe extending not less than 1 inch (25 mm) above a water-impervious floor, and are not required to have a strainer.
2. Clothes washer standpipes shall not be prohibited in bathrooms.

Reason: Hub drains and standpipes simply do not need to have strainers and there is no harm or technical justification to disallow a cloth washer in a residential bathroom

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: McMann-RP-3-P2702.1

RP4–09/10
P2709.1

Proponent: Shawn Martin, Plumbing Manufacturers Institute, representing the Plumbing Manufacturers Institute

Revise as follows:

P2709.1 Construction. Shower receptors shall have a finished curb threshold not less than 1 inch (25 mm) below the sides and back of the receptor where provided. The curb shall be not less than 2 inches (51 mm) and not more than 9 inches (229 mm) deep when measured from the top of the curb to the top of the drain. The finished floor shall slope uniformly toward the drain not less than ¼ unit vertical in 12 units horizontal (2-percent slope) nor more than ½ inch (13 mm), and floor drains shall be flanged to provide a water-tight joint in the floor.

Reason: Market research and discussions with focus groups, builders and contractors indicate that consumers are showering much more frequently than bathing. Research also indicates that baby boomers that are nearing retirement age and are planning for life's remaining years at home are looking for home solutions that limit safety hazards by providing no hindrance in entering the showering. A barrier exists because an elderly person requiring the use of a walker or confined to a wheelchair cannot access the shower because of the threshold, curb or dam height requirements. We are therefore proposing that the threshold, curb or dam height be optional.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: MARTIN-RP3-2709.1

RP5–09/10
P2709.1

Proponent: Eric Gundersen, Masco Bath representing Masco Bath

Revise as follows:

P2709.1 Construction. Where ~~S~~shower receptors have a finished curb threshold it shall ~~have a finished curb threshold~~ be not less than 1 inch (25mm) below the sides and back of the receptor. The curb shall be not less than 2 inches (51mm) and not more than 9 inches (229mm) deep when measured from the top of the curb to the top of the drain. The finished floor shall slope uniformly toward the drain not less than ¼ unit vertical in 12 units horizontal (2-percent slope) nor more than ½ unit vertical per 12 units horizontal (4-percent slope) ~~inch (13mm) per foot~~, and floor drains shall be flanged to provide a water-tight joint in the floor.

Reason: Not all shower receptors have a finished curb threshold. Those used in accessible buildings are not required to have one, and with an ageing population, the need to eliminate thresholds over which people need to step is important. As long as the shower receptor has adequate provisions to drain the water into the waste system, there should be no need for such a threshold. The IPC does not include such a requirement. To rectify an editorial error in the slope statement.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Gunderson-RP1-P2709.1

RP6–09/10
P2711.5 (New), P2714.3 (New)

Proponents: Ronald L. George, CIPE, CPD, President of Ron George Design and Consulting Services, Amy Acton of The Phoenix Society for Burn Survivors, Angela Mickalide of the Home Safety Council

Add new text as follows:

P2711.5 Hot Water Temperature Limit. Hot water delivered from a lavatory faucet shall not exceed 120°F (49°C). A water heater thermostat shall not be used as a temperature limiting device to comply with the requirement of this section.

P2714.5 Hot Water Temperature Limit. Hot water delivered from a sink faucet shall not exceed 120°F (49°C). A water heater thermostat shall not be used as a temperature limiting device to comply with the requirement of this section.

Reason: Water heater thermostats cannot properly control the water temperatures to a domestic hot water system. All water heater thermostats have an allowable tolerance plus or minus 11 to 15 degrees Fahrenheit that allows temperature swings in the domestic hot water system up to 30 degrees from the burner or heating element "on" temperature setting to the burner or heating element "off" temperature setting. Coupled with thermal layering in un-circulated storage type water heaters, the temperature variation can be as much as 50 degrees in an un-circulated storage type heater. Instantaneous heaters have temperature fluctuations as the flow changes. A thermostatic mixing valve installed in the hot water piping downstream of the water heater will mix cold water with the varying hot water temperatures to deliver a relatively constant and safe temperature of hot water to the domestic hot water system.

Many children are scalded every year because of scalding hazards in a home. These injuries are very preventable with a small thermostatic mixing valve located at the water heater or on the branch to fixtures used for bathing and washing.

Water Heater Thermostats

The reason the water heater thermostat for burner "on" and burner "off" control is being used to control how water system temperatures is there is nothing mandating thermostatic controls to be installed on hot water systems. Although water heater manufacturers are recommending that installers set thermostats at 120 to 125 degrees F, and most of them ship the water heaters at lower temperature settings.
Plumbing engineers continue to recommend hot water systems be designed with the intended storage temperatures for several reasons.

1. The water heater is sized based on 140 degrees Fahrenheit so if you turn down the temperature you will most likely run out of hot water during peak periods.
2. Higher temperatures reduce the threat of Legionellae bacteria growth in the water heater tank.
3. Using 140 degree hot water and mixing down to a safe delivery temperature around 120-125 degrees Fahrenheit allows a constant hot water delivery temperature.
4. If a water heater burner control thermostat is turned down to a lower temperature, the water heater has a reduced capacity to deliver hot water.

As a result, when users run out of hot water and the water heater thermostat is then re-adjusted to a temperature above 120 degrees F, there is a chance the water thermostat can be turned even higher. If the maximum temperature limit stop is not readjusted, then everyone is in danger of being scalded.

Water Heater Burner Control Accuracy

Water heater thermostats were never intended to provide precise temperature controls for hot water system temperatures. For example: The thermostat dial calibration test of ANSI Z21.10.1-1998, which is the applicable standard for gas-fired water heaters, allows the temperature to vary 10 degrees above or below the thermostat setting. I have talked to water heater manufacturers and factory engineers that have indicated the controls can vary as much as 15 to 18 degrees Fahrenheit above or below the set point. The thermostat is inserted into the lower portion of a water heater tank and turns the fuel supply to the water heater "on" and "off" . There is no way to know what the temperature in the tank is with most water heater thermostat dials.

Many children are scalded every year because of scalding hazards in a home. I investigate many scald injuries every year and find through a variety of reasons, a child can find their way up onto the counter where there is a lavatory and they are amused by the water. These young children do not understand how the faucet controls work and are often scalded when they turn the faucet to the hot setting and the hot water temperatures are dangerously high. (Above 120 degrees F.) These injuries are very preventable with a small thermostatic mixing valve located at the water heater or on the branch to fixtures used for bathing and washing. The thermostatic valve can be adjusted to a setting that provides a safe and useable temperature of hot water.

Theoretically, if the water heater thermostatic element is set at 120 degrees Fahrenheit, the burner would come on when the temperature at the thermostat reaches about 105 degrees Fahrenheit. The burner stays on until the water around the thermostatic element (near the bottom of the heater) reaches about 135 degrees Fahrenheit then it turns the fuel supply to the burner or heating element off. (15 degrees F above the set-point of the thermostat). The maximum temperature limit test of ANSI Z21.10.1 gas water heater standard allows the outlet water temperature of the water heater to rise about 30 degrees F above the thermostat setting. This provision accounts for the phenomenon known as "stacking" or "layering" of hot water in the top of a water heater. Stacking or layering occurs when hot water rises to the top of the water heater due to recurring short duration heating cycles caused by a frequent number of small quantity hot water uses which draws cold water into the bottom of the heater. Although the above example addresses gas water heaters, this phenomenon can also occur in other types of storage water heaters. So at the top of a water heater that is theoretically set for 120 degrees Fahrenheit, the outlet hot water temperatures can easily reach 165 degrees Fahrenheit.

This is why we should mandate a thermostatic mixing valve conforming to ASSE 1017 or CSA B-125.3 on the outlet piping of a water heater to limit the hot water distribution temperatures to a maximum safe delivery temperature of 120 to 125 degrees Fahrenheit. If high temperature hot water uses are required for a process application a thermostatic mixing valve conforming to ASSE 1070 can be installed on the local branch piping serving a fixture or group of fixtures. Additional supporting information is shown on my website at: www.rongeorgedesign.com

Cost Impact: Minimal

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: GEORGE-RP3-P2711.5 NEW

RP7–09/10
P2713.3

Proponent: Sally Remedios, Delta Faucet Company, representing Delta Faucet Company.

Revise as follows:

P2713.3 Bathtub and whirlpool bathtub valves. The hot water supplied to bathtubs and whirlpool bathtubs shall be limited to a maximum temperature of 120°F (49°) by a water-temperature limiting device that conforms to ASSE 1070 or CSA B125.3, except where such protection is otherwise provided by a combination tub/shower valve in accordance with Section P2708.3.

Reason: This alternate standard is already referenced in the 2009 IPC and it was an oversight not to include it in the IRC at the same time.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Remedios-RP2-P2713.3

RP8–09/10
P2709.2

Proponent: Pat Clark, Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

P2709.2 Lining required. The adjoining walls and floor framing enclosing on-site built-up shower receptors shall be lined with one of the following materials.

1. Sheet lead,
2. Sheet copper,
3. Plastic liner material that complies with ASTM D 4068 or ASTM D 4551,
4. Hot mopping in accordance with Section P2709.2.3 or
5. Sheet-applied load-bearing, bonded waterproof membranes that comply with ANSI A118.10.

The lining material shall extend not less than ~~3 inches (76 mm)~~ 2 inches (51 mm) beyond or around the rough jambs and not less than ~~3 inches (76 mm)~~ 2 inches (51 mm) above finished thresholds. Sheet-applied load bearing, bonded waterproof membranes shall be applied in accordance with the manufacturer's installation instructions.

Reason: This is inconsistent with IPC Section 417.5.2 which calls for 2 inches. There is no technical justification for a 3 inch dimension and brings uniformity to the two documents.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Clark-RP1-P2709.2

RP9–09/10
Section 2904 (New)

Proponent: Guy Tomberlin, Fairfax County, Virginia representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA) and the Virginia Building and Code Officials Association (VBCOA)

Add new text as follows:

SECTION 2904
HOT WATER SUPPLY SYSTEMS

2904.1 Where required. Hot water shall be supplied to all plumbing fixtures and equipment utilized for bathing, washing or culinary purposes.

P2904.2 Hot water supply temperature maintenance. Where the developed length of hot water piping from the source of hot water supply to the furthest fixture exceeds 40 feet (12192 mm), the hot water supply system shall be provided with a recirculating pump system to maintain hot water temperature to a point that is not further than 40 feet (12 192 mm) in developed pipe length from any fixture.

P2904.2.1 Piping insulation. Circulating hot water system piping shall be insulated in accordance with Section N1103.4.

P2904.2.2 Hot water system controls. Circulating hot water system pump controls shall be in accordance with Section N1103.4.

2904.2.3 Recirculating pump. Where a thermostatic mixing valve is used in a system with a hot water recirculating pump, the hot water or tempered water return line shall be routed to the coldwater inlet pipe of the water heater and the cold water inlet pipe or the hot water return connection of the thermostatic mixing valve.

Reason: Current IRC provides no guidance for the hot water piping installed in a dwelling unit. Several hundred feet of hot water piping can be installed with no regard to energy conservation. Water heaters are being installed in remote locations based on space allotment. Significant water and energy are wasted waiting for the hot water to get to the fixture. These are similar to the provisions that have always been included in the IPC .

Cost Impact: This code change proposal could increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Tomberlin-RP3-P2904 NEW

RP10–09/10
P2904.1

Proponent: Philip A. Brown, American Fire Sprinkler Association

Revise as follows:

P2904.1 General. Where installed, residential fire sprinkler systems, or portions thereof, shall be in accordance with NFPA 13D or Section P2904, which shall be considered equivalent to NFPA 13D. Section P2904 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall supply domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system. A backflow flow preventer shall ~~not~~ be required to separate a stand-alone sprinkler system from the water distribution system.

Reason: Backflow prevention is normally required by local water purveyors to separate non-flowing water systems from flowing systems.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BROWN-RP2-P2904.1

RP11–09/10
P2904.1

Proponent: Julius Ballanco, P.E./JB Engineering and Code Consulting, P.C. representing himself

Revise as follows:

P2904.1 General. ~~Where installed,~~ The design and installation of residential fire sprinkler systems~~, or portions thereof,~~ shall be in accordance with NFPA 13D or Section P2904, which shall be considered equivalent to NFPA 13D. Partial residential sprinkler systems shall be permitted to be installed only in buildings not required to be equipped with a residential sprinkler system. Section P2904 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall provide domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system. A backflow flow preventer shall not be required to separate a stand-alone sprinkler system from the water distribution system.

Reason: The first sentence clarifies that this section regulates the design and installation of residential sprinklers, and does not mandate residential sprinkler systems. The addition of the second sentence emphasizes that it would be permissible to install a partial system when residential sprinklers are not required. The reason for adding such wording is so that the section can stand on its own whether sprinklers are mandated or not. When mandated by Chapter 3, partial system can still be installed in existing residential units.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BALLANCO-RP2-2904.1

RP12–09/10
P2904.1

Proponent: Richard J. Prospal, on behalf of The American Society of Sanitary Engineering

1. Revise as follows:

P2904.1 General. Where installed, residential fire sprinkler systems, or portions thereof, shall be in accordance with NFPA 13D or Section P2904, which shall be considered equivalent to NFPA 13D. Section P2904 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall supply domestic water to both fire sprinklers and plumbing fixtures. Installers of multipurpose fire

sprinkler systems shall meet the requirements of ASSE 7010. A stand-alone sprinkler shall system shall be separate and independent from the water distribution system. A backflow preventer shall not be required to separate a stand-alone system from the water distribution system.

2. Add standard to Chapter 44 as follows:

ASSE
7010 - 2008, Professional Qualifications Standard for Plumbing-Based Residential Fire Protection Systems Installers for One and Two-Family Dwellings

Reason: The installers of multipurpose residential fire sprinkler systems must be qualified and pass a certification process assuring the general public of their knowledge of NFPA 13D and Section P2904.

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

Analysis: Review of proposed new standard, ASSE 7010-2008, for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before September 24, 2009.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Prospal-RP-1-P2904.1

RP13–09/10
P2904.2.4.2, Table P2904.2.4.2 (New)

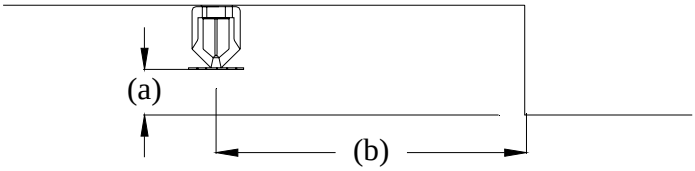
Proponent: Ron Coleman/IRC Fire Sprinkler Coalition/IRC Fire Sprinkler Coalition

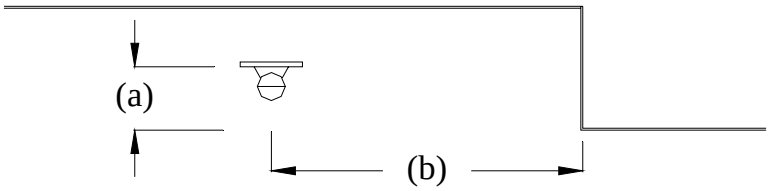
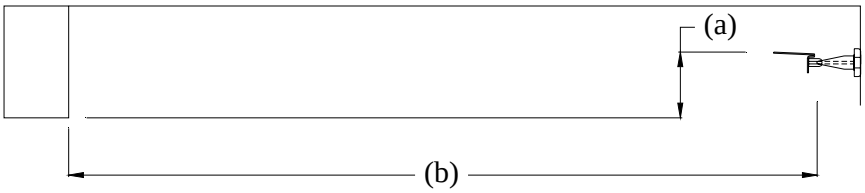
1. Revise as follows:

P2904.2.4.2 Obstructions to coverage. Sprinkler discharge shall not be blocked by obstructions unless additional sprinklers are installed to protect the obstructed area. Additional sprinklers shall not be required where the sprinkler separation from obstructions ~~shall comply~~ complies with the greater of the minimum distance indicated in Table P2904.2.4.2 and the minimum distances specified in the sprinkler manufacturer's instructions.

2. Add new table as follows:

TABLE P2904.2.4.2
MINIMUM SEPARATION FROM OBSTRUCTION

Pendent Sprinklers	
Distance from Deflector to Plane at Bottom of Obstruction (a) (inches)	Minimum Distance to Obstruction (b) (feet)
1	1-1/2
3	3
5	4
7	4-1/2
9	6
11	6-1/2
14	7

Sidewall Sprinkler Side Obstruction	
Distance from Deflector to Plane at Bottom of Obstruction (a) (inches)	Minimum Distance to Obstruction (b) (feet)
1	1-1/2
3	3
5	4
7	4-1/2
9	6
11	6-1/2
14	7
Sidewall Sprinkler Forward Obstruction	
Distance from Deflector to Plane at Bottom of Obstruction (a) (inches)	Minimum Distance to Obstruction (b) (feet)
1	8
2	10
3	11
4	12
6	13
7	14
9	15
11	16
14	17

Reason: To allow Section P2904 to stand alone as an installation standard, specific requirements regarding the minimum spacing to obstructions need to be added. Although some manufacturers provide detailed information regarding spacing with respect to obstructions in their installation instructions, there are some that currently just rely on NFPA 13D. This change will add general obstruction requirements that are consistent with NFPA 13D, while still permitting greater flexibility when permitted by installation instructions (which are required to be approved by UL or other approved listing agencies). The proposed addition will also provide a useful tool to the code official during inspection.

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

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Coleman-RP1-P2904.2.4.2

RP14–09/10
P2904.3.1, P2904.8.1

Proponent: Julius Ballanco, P.E./JB Engineering and Code Consulting, P.C. representing himself

Revise as follows:

P2904.3.1 Nonmetallic pipe and tubing. ~~Nonmetallic pipe and tubing, such as CPVC and PEX, shall be listed for use in residential fire sprinkler systems.~~ CPVC pipe, PEX tubing, PEX-Al-PEX tubing, and PE-AL-PE tubing shall be third

party certified as conforming to one of the standards listed in Table P2905.4. CPVC pipe, PEX tubing, PEX-Al-PEX shall be certified for a pressure rating of not less than 130 psi (8.9 bar) at 120°F (49°C)

P2904.8.1 Pre-concealment Inspection. The following items shall be verified prior to the concealment of any sprinkler system piping:

1. Sprinklers are installed in all areas as required by Section P2904.1.1.
2. Where sprinkler water spray patterns are obstructed by construction features, luminaires or ceiling fans, additional sprinklers are installed as required by Section P2904.2.4.2.
3. Sprinklers are the correct temperature rating and are installed at or beyond the required separation distances from heat sources as required by Sections P2904.2.1 and P2904.2.2.
4. The pipe size equals or exceeds the size used in applying Tables P2904.6.2(4) through P2904.6.2(9) or, if the piping system was hydraulically calculated in accordance with Section P2904.6.1, the size used in the hydraulic calculation.
5. The pipe length does not exceed the length permitted by Tables P2904.6.2(4) through P2904.6.2(9) or, if the piping system was hydraulically calculated in accordance with Section P2904.6.1, pipe lengths and fittings do not exceed those used in the hydraulic calculation.
6. Non-metallic piping that conveys water to sprinklers is ~~listed~~ certified for ~~use with fire sprinklers~~ a pressure rating of not less than 130 psi (8.9 bar) at 120°F (49°C).
7. Piping is supported in accordance with the pipe manufacturer's and sprinkler manufacturer's installation instructions.
8. The piping system is tested in accordance with Section P2503.6

Reason: The requirement for plastic pipe is that it meets the appropriate ASTM standard regulating the pipe or tube. In addition, NFPA 13D specifies the minimum pressure and temperature rating when used in a residential sprinkler system. There is no fire testing required by NFPA 13D for plastic pipe. Since Section P2904 is very specific regarding the type of sprinkler system used, the requirements for plastic pipe should provide the applicable requirements. The intent was always to parallel the requirements for water distribution systems. The pipe must meet the requirements for water distribution pipe.

It should be noted that Section P2904 does not permit the use of a fire department connection. The piping system is piped as a part of the plumbing system with the same pressure limitations. Hence, there is no justification for any higher ratings.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Ballanco-RP-3-P2904.3.1

RP15–09/10
P2904.6.1

Proponent: Philip A. Brown, American Fire Sprinkler Association

Revise as follows:

P2904.6.1 Method of sizing pipe. Pipe supplying sprinklers shall be sized using the prescriptive method in Section P2904.6.2 for nonlooped tree systems only or by hydraulic calculation in accordance with NFPA 13D. The minimum pipe size from the water supply source to any sprinkler shall be 3/4 inch (19 mm) nominal. Threaded adapter fittings at the point where sprinklers are attached to the piping shall be a minimum of 1/2 inch (13 mm) nominal.

Reason: The flow and pressure requirements for a sprinkler system are strongly affected where piping systems are interconnected (looped/gridded). The use of the Tables P2904.6 (2) through P2904.6 (9) as discussed in Step 8 of Section P2904.6.2.2 is for a straight flow (non-looped) system.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: BROWN-RP1-P2904.6.1

RM1–09/10
Chapter 14, M1401.2, M1401.3, M1401.4

Proponent: Sam Dardano, City of Boulder, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

CHAPTER 14
HEATING AND COOLING EQUIPMENT AND APPLIANCES

M1401.2 Access. Heating and cooling equipment and appliances shall be located with respect to building construction and other equipment and appliances to permit maintenance, servicing and replacement. Clearances shall be maintained to permit cleaning of heating and cooling surfaces; replacement of filters, blowers, motors, controls and vent connections; lubrication of moving parts; and adjustments

Exception: Access shall not be required for ducts, piping, fittings or other components intended for concealment.

.

M1401.3 Sizing. Heating and cooling equipment and appliances shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies.

M1401.4 Exterior installations. Equipment and appliances installed outdoors shall be listed and labeled for outdoor installation. Supports and foundations shall prevent excessive vibration, settlement or movement of the equipment. Supports and foundations shall be ~~level and conform to the manufacturer's installation instructions~~ in accordance with Section M1305.1.4.1.

Reason: This is a simple fix to include appliances in the text as it's obvious that this is the true intent. Appliances are mentioned throughout Chapter 14. The definition of **Equipment** excludes appliances. The exception recognizes that by definition, equipment includes the mentioned items and not all parts of systems necessarily need to be accessible at all. A pointer has been installed to direct the user to the proper section for ground clearance.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Dardano-RM-5-M1401

RM2–09/10
M1403.2

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

Delete without substitution:

~~**M1403.2 Foundations and supports**. Supports and foundations for the outdoor unit of a heat pump shall be raised at least 3 inches (76 mm) above the ground to permit free drainage of defrost water, and shall conform to the manufacturer's installation instructions~~.

Reason: This is redundant language which is already covered in M1305.1.4.1.This applies to all equipment and appliances.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: McMann-RM-9-M1403.2

RM3–09/10
M1405.1, Chapter 44 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

M1405.1 General. Electric baseboard convectors shall be installed in accordance with the manufacturer's installation instructions and Chapters 34 through 43 of this code. Electric baseboard heaters shall be listed and labeled in accordance with UL 1042.

2. Add new standard to Chapter 44 as follows:

UL 1042 –94 Electric Baseboard Heating Equipment – with revisions through February 2008

Reason: UL 1042 includes a comprehensive set of construction and performance requirements that are specifically used to evaluate and list electric baseboard heaters. Over a dozen companies have electric baseboard heater listings.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-3-M1405.1-Ch 44

RM4–09/10
M1406.1, M1406.5, Chapter 44 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

M1406.1 General. Electric radiant heating systems shall be installed in accordance with the manufacturer's installation instructions and Chapters 34 through 43 of this code and shall be listed for the application. Electric radiant heating panels and heating panel sets shall comply with UL 1693. Electric space heating cables shall comply with UL 1673.

2. Delete without substitution:

~~**M1406.5 Gypsum panels.** Where radiant heating systems are used on gypsum assemblies, operating temperatures shall not exceed 125°F (52°C).~~

3. Add new standards to Chapter 44 as follows:

UL 1673-96 Electric Space Heating Cables – with revisions through July 2003
UL 1693-02 Electric Radiant Heating Panels and Heating Panel Sets

Reason: UL 1673 and UL 1693 include a comprehensive set of construction and performance requirements that are used to evaluate and list electric space heating cables and electric radiant heating panels. Over 20 companies currently have heating cables and radiant heating panels listed. UL 1673 and UL 1693 do not require a temperature rating to be marked on the surface of the product or in the instructions. Instead, the product is specifically evaluated to the application and surfaces to which it is to be in contact. The instructions detail the surface (e.g. in concrete, on gypsum, above subfloor covered in tile, etc.). Note also that different surfaces have different temperature allowances in accordance with the standard, so all of these applications would all need to be itemized if temperatures limits are to continue to be maintained.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-5-M1406.1-Ch 44

RM5–09/10
M1406.3

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M1406.3 Installation of radiant panels. Radiant panels installed on wood or steel framing shall conform to the following requirements:

1. Heating panels shall be installed parallel to framing members and secured to the surface of framing members or mounted between framing members.
2. ~~Panels~~ Mechanical fasteners shall ~~be nailed or stapled~~ penetrate only ~~through~~ the unheated portions provided for this purpose. ~~and~~ Panels shall not be fastened at any point closer than ¼ inch (7 mm) to an element. Other methods of attachment of the panels shall be in accordance with the panel installation instructions.
3. Unless listed and labeled for field cutting, heating panels shall be installed as complete units.

Reason: Item 2 only addresses nails and staples as the only means to fasten the panels. The penetration of screws into the heating elements is also a concern. Various systems use other means of attachment (such as clips or adhesives), which are evaluated as part of the listing of the panels. Proposed revision is to provide guidance on how to secure the panels to the wood framing.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-7-M1406.3

RM6–09/10
M1408.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M1408.1 General. Oil-fired vented floor furnaces shall ~~conform to~~ comply with UL 729 and shall be installed in accordance with their listing, the manufacturer's installation instructions and the requirements of this code.

Reason: To clarify that UL 729 is only applicable for oil-fired floor furnaces.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-11-M1408.1

RM7–09/10
M1409.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M1409.1 General. Oil-fired vented wall furnaces shall ~~conform to~~ comply with UL 730 and be installed in accordance with their listing, the manufacturer's installation instructions and the requirements of this code.

Reason: To clarify that UL 730 is only applicable for oil-fired wall furnaces.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-2-M1409.1

RM8–09/10
M1412.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M1412.1 Approval of equipment. Absorption systems shall be installed in accordance with the manufacturer's installation instructions. Absorption equipment shall comply with UL 1995.

Reason: UL 1995 includes a comprehensive set of construction and performance requirements that are used to evaluate and list absorption equipment, and is already adopted by reference in other sections of the IRC.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-4-M1412.1

RM9–09/10
M1413.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M1413.1 General. Cooling equipment that uses evaporation of water for cooling shall be installed in accordance with the manufacturer's installation instructions. Evaporative coolers shall be installed on a level platform or base not less than 3 inches (76 mm) above the adjoining ground and secured to prevent displacement. Openings in exterior walls shall be flashed in accordance with Section R703.8. Evaporative cooling equipment shall comply with UL 1995.

Reason: UL 1995 includes a comprehensive set of construction and performance requirements that are used to evaluate and list evaporative cooling equipment and is already adopted by reference in other sections of the IRC.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME:Eugene-RM-6-M1413.1

RM10–09/10
M1501.1, M1506, M1506.2 (New), M1507.2

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

1. Revise as follows:

M1501.1 Outdoor discharge. The air removed by every mechanical exhaust system shall be discharged to the outdoors in accordance with Section M1506.2. ~~Air shall not be exhausted into an attic, soffit, ridge vent or crawl space~~.

Exception: Whole-house ventilation-type attic fans that discharge into the attic space of dwelling units having private attics shall be permitted.

SECTION M1506
EXHAUST DUCTS AND EXHAUST OPENINGS

2. Add new text as follows:

M1506.2 Exhaust openings. Air exhaust openings shall terminate not less than 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable and non-operable openings into the building and 10 (3048 mm) feet from mechanical air

intakes except where the opening is located 3 feet (914 mm) above the air intake. Openings shall comply with Sections R303.4.2 and R303.5.

3. Revise as follows:

M1507.2 Recirculation of air. Exhaust air from bathrooms and toilet rooms shall not be re-circulated within a residence or to another dwelling unit and shall be exhausted directly to the outdoors. ~~Exhaust air from bathrooms and toilet rooms shall not discharge into an attic, crawl space or other areas inside the building.~~

Reason: The logic in this proposal is consistent with the approval of M-22 last cycle which concluded that ventilation openings belong in the ventilation chapter and exhaust openings belong in the exhaust chapter. This handles all exhaust that would be encountered in residences and includes nothing new.
The stricken text in M1501.1 and M1507.2 is redundant and not needed as it will be covered under M1506.2.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: McMann-RB-2-R303.4.2-M1501-M1506

RM11–09/10
M1502.4.4.1

Proponent: Don Surrena, CBO, National Association of Home Builders (NAHB)

Revise as follows:

M1502.4.4.1 Specified length. The maximum length of the exhaust duct shall be ~~25~~ 35 feet (~~7620mm~~) (10,668mm) from the connection to the terminus of 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 M1502.4.4.1.

Reason: The purpose of this proposal is to reinstate the 35 foot maximum length of a dryer duct, and to more clearly define how to measure the duct length. This proposal will also help minimize any misinterpretation by code officials and correlate the same provisions with the IMC and IFGC.

During the 2007-2008 code development cycle, there was a proposal submission error made by the proponent that inadvertently changed the permitted length of duct from 35 feet to 25 feet in the IRC. There was no data produced at the hearing that showed the permitted 35 foot length was dangerous. However research has shown, dryer manufactures indicate 35 feet is an acceptable length according to their installation instructions. The 35 foot length allows more flexibility in design allowing for increased energy savings and allowing for more versatile utilization of green building practices. In addition this proposal adds the term "terminus" to clarify and prevent confusion on the part of the inspector as to where to start measuring the "dryer duct," and to not include the "transition duct." (The duct connection from the appliance to the exhaust duct)

We encourage the adoption of this proposal to reinstate the 35 foot maximum length for dryer duct. The requirements of the IRC, IMC and the IFGC, should be consistent in regard to Dryer Duct Length.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Surrena-RM-2-M1502.4.4.1

RM12–09/10
M1502.4.4.1

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

Revise as follows:

M1502.4.4.1 Specified length. The maximum length of the exhaust duct shall be ~~25~~ 35 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 M1502.4.4.1.

Reason: This is an attempt to correct an error that occurred last code cycle. The entire section of M1502 was re-written for clarity and better usability. The previous IRC 2006 edition included the 35 foot allowance. Unfortunately, during the re-write the 35 feet was inadvertently changed

back to 25 feet. Substantial data was presented to support the additional 10 feet during the 03 to 06 cycle which illustrated that the majority of clothes dryers manufactured today have no problem complying with the 35 length and the reductions for changes in direction.

Cost Impact: (None given)

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Tomberlin-RM-2-M1502.4.4.1

RM13–09/10
M1503.1

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

Revise as follows:

M1503.1 General. A range hood or a down-draft exhaust system shall be provided for each range or cooktop. Range hoods and down-draft exhaust systems shall discharge to the outdoors ~~through a single-wall duct~~. The duct serving the hood shall have a smooth interior surface, shall be air tight and shall be equipped with a backdraft damper. Ducts serving range hoods shall not terminate in an attic or crawl space or areas inside the building.

> ~~**Exception:** Where installed in accordance with the manufacturer's installation instructions and where mechanical or natural ventilation is otherwise provided, listed and labeled ductless range hoods shall not be required to discharge to the outdoors.~~

M1503.3 Kitchen exhaust rates. ~~Where~~ domestic kitchen ~~cooking *appliances* are equipped with ducted~~ range hoods ~~or~~ and down-draft exhaust systems~~, the fans~~ shall ~~be sized in accordance~~ comply with Section M1507.3.

Reason: This ties all the requirements for residential range hoods together in one place and requires exhaust to the outdoors for each cooking appliance. Current text fails to require a hood and only addresses them where they are chosen to be installed. Most range manufacturers recommend the installation of hoods. Range hoods are necessary to achieve proper kitchen ventilation..

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Adkins-RM-1-M1503.1

RM14–09/10
M1503.1

Proponent: Forrest Fielder, City of Surprise, AZ, representing the Arizona Building Officials

Revise as follows:

M1503.1 General. Range hoods shall discharge to the outdoors through a single-wall duct. The duct serving the hood shall have a smooth interior surface, shall be air tight and shall be equipped with a backdraft damper. Changes in duct size or direction shall be accomplished with pre-manufactured transition fittings. Ducts serving range hoods shall not terminate in an *attic* or crawl space or areas inside the building.

> **Exception:** Where installed in accordance with the manufacturer's installation instructions, and where mechanical or natural *ventilation* is otherwise provided, *listed* and *labeled* ductless range hoods shall not be required to discharge to the outdoors.

Reason: The taped connections allowed by the Code fail quickly in the event of a grease fire occurring when the exhaust is operating, and taped connections are recognized as non-durable. Without mechanical connections to keep the exhaust system intact, flame can be fan-forced into unprotected attics in the event of fire. Under normal (non-emergency) circumstances, taped connections will fail, and allow exhaust directly into attics. This change clarifies the code's intent that these connections be made permanently, reliably intact.

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

RM15–09/10

M1503.1, M1503.3, Table M1507.3

Proponent: Steve Ferguson, American Society of Heating, Refrigerating, and Air-Conditioning Engineers

Revise as follows:

M1503.1 General. Range hoods shall discharge to the outdoors through a single-wall duct. The duct serving the hood shall have a smooth interior surface, shall be air tight and shall be equipped with a backdraft damper. Ducts serving range hoods shall not terminate in an attic or crawl space or areas inside the building.

Exception: Where installed in accordance with the manufacturer's installation instructions, and where mechanical ~~or natural ventilation~~ exhaust is otherwise provided in accordance with Section M1503.3, listed and labeled ductless range hoods shall ~~not~~ be permitted ~~required to discharge to the outdoors~~.

M1503.3 Kitchen exhaust ~~rates~~. ~~Where domestic kitchen cooking appliances are equipped with ducted range hoods or down draft exhaust systems, the fans shall be sized in accordance with Section M1507.3.~~ In each dwelling unit, not less than one range or cooktop shall be provided with a ducted range hood or down-draft fan that discharges to the outdoors. Such hoods and down-draft fans shall comply with Section M1507.3.

Exception: Range hoods and down-draft exhaust systems are not required where other mechanical exhaust systems serve the kitchen and provide continuous exhaust in accordance with Section M1507.3.

TABLE M1507.3
MINIMUM REQUIRED EXHAUST RATES FOR ONE- AND TWO-FAMILY DWELLINGS

AREA TO BE ~~VENTILATED~~ EXHAUSTED	**~~VENTILATION~~ EXHAUST RATES**[a]
Kitchens	100 cfm intermittent or ~~25 cfm continuous~~5 air changes per hour continuous based on total kitchen volume
Bathrooms, ~~Toilet~~ Water Closet Rooms	~~Mechanical exhaust capacity of~~ 50 cfm intermittent or 20 cfm continuous

For SI: 1 cubic foot per minute = 0.4719 L/s.

a. Equipment shall be tested and rated in accordance with HVI 916.

Reason: The purpose of this proposal is to strengthen the requirement for kitchen ventilation by increasing the stringency for allowable systems.

The existing provisions allow the use of windows for the intended purpose of exhausting contaminants produced by kitchen appliances. These systems are not able to remove kitchen contaminants from new housing. This change will improve the code by assuring that kitchen contaminants are exhausted outdoors and not simply redistributed in the home. It allows the use of ductless range hoods when either a down-draft or other wall- or ceiling-mounted fan that provides at least 5 ACH is installed. The reference to HVI 916 is provided to ensure that fans comply with industry standards for air flow verification. As a point of reference, MN state code 7672.1000 currently references HVI 916. HVI 916 is a consensus standard that is also referenced by Energy Star's Ventilation Fan Specification for measurement and verification of fan flow rates (note that NO on-site measurement or verification is required).

Substantiation: Cooking and other kitchen activities produce large quantities of indoor air quality contaminants such as moisture, organic compounds and a wide spectrum of particles. These contaminants can lead to condensation on cold building materials, leading to mold, discoloration, and damage. Modern houses with low infiltration and window use rates do not have sufficient ventilation to be able to cope with kitchen contaminants being dispersed throughout the home These contaminants cannot be filtered out and must be removed to avoid health problems and damage to the home. Windows do not always exhaust air; air just as often comes in as goes out. IF windows are open, roughly half the time they do not serve to exhaust kitchen contaminants but push them into the rest of the house. Windows are generally not used often enough to be depended upon and many occupants never open their windows for a number of reasons. Similarly, down-draft appliances of 50-100 cfm cannot capture significant amounts of contaminants, which rise due to buoyancy. The values in Table M1606.3 are effective when used with vented range hoods, which have good capture efficiency because of their shape. For down-draft or room-based exhaust systems, the capture efficiency is poor, and five room air changes of exhaust are necessary to keep contaminants from dispersing into other rooms.

Bibliography: ASHRAE Standard 62.2-2007 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings. http://www.ashrae.org/technology/page/548

Price, P.N. and M.H. Sherman "Ventilation Behavior and Household Characteristics in New California Houses," April 2006. LBNL-59620 http://epb.lbl.gov/Publications/lbnl-59620.pdf

Sherman, M. H. and A.T. Hodgson. "Formaldehyde as a Basis for Residential Ventilation Rates", 2002 LBNL-49577. http://epb.lbl.gov/Publications/lbnl-49577.pdf

Walker, I. S. and M. H. Sherman "Evaluation of Existing Technologies for Meeting Residential Ventilation Requirements."2006, LBNL-59998. http://epb.lbl.gov/Publications/lbnl-59998.pdf

Sherman, M.H., Chan W. R., "Building Airtightness: Research and Practice" in Building Ventilation: the state of the art, (Santamouris, Wouters, Eds) Earthscan ISBN-13: 978-1-84407-130-2 pp. 137-162, 2006, http://epb.lbl.gov/Publications/lbnl-53356.pdf

Cost Impact: This proposal will increase the cost of construction in those cases where a vented range hood costs more to install than a ductless range hood or if down-draft ventilation capacity needs to be increased to meet the 5 ACH requirement. However, NAHB has indicated that 70-80% of new homes have ducted range hoods or down-draft fans, so the overall cost impact is minimal.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Ferguson-RM-2-M1503-T. M1507.3

RM16–09/10

R202 (New), R303.3, M1507.1, M1507.2, M1507.3, Table M1507.3, Chapter 44 (New)

Proponent: Steve Ferguson, American Society of Heating, Refrigerating, and Air-Conditioning Engineers

1. Add new definition as follows:

BATHROOM. A room containing a bathtub, shower, spa, hot tub, or other bathing fixture.

2. Revise as follows:

R303.3 Bathrooms. Bathrooms, water closet ~~compartments~~ rooms and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet (0.279 m2), one-half of which must be openable. Bathrooms shall be mechanically exhausted in accordance with Section M1507.

Exception: The glazed areas shall not be required where artificial light is provided and a mechanical ~~ventilation~~ exhaust system in accordance with Section M1507 ~~are~~ is provided. ~~The minimum ventilation rates shall be 50 cfm (23.6 L/s) for intermittent ventilation or 20 cfm (9.4 L/s) for continuous ventilation.~~ ~~Ventilation~~ Exhaust air from the space shall be exhausted directly to the ~~outside~~ outdoors.

M1507.1 General. Kitchens ~~Where toilet rooms~~ and bathrooms shall be ~~are~~ mechanically exhausted ~~ventilated,~~. T~~t~~he ~~ventilation~~ exhaust equipment shall be installed in accordance with this section.

M1507.2 Recirculation of air. Exhaust air from kitchens, bathrooms and water closet ~~toilet~~ rooms shall not be recirculated within a residence or to another dwelling unit and shall be exhausted directly to the outdoors. Exhaust air from kitchens, bathrooms and water closet ~~toilet~~ rooms shall not discharge into an attic, crawl space or other areas inside the building.

M1507.3 ~~Ventilation~~ Exhaust rate. ~~Ventilation~~ Exhaust systems shall be designed to have the capacity to exhaust the minimum air flow rate determined in accordance with Table M1507.3.

TABLE M1507.3
MINIMUM REQUIRED EXHAUST RATES FOR ONE- AND TWO-FAMILY DWELLINGS

AREA TO BE ~~VENTILATED~~ EXHAUSTED	~~VENTILATION~~ EXHAUST RATES[a]
Kitchens	100 cfm intermittent or ~~25 cfm continuous~~5 air changes per hour continuous based on total kitchen volume
Bathrooms, ~~- Toilet~~ Water Closet Rooms	Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous

For SI: 1 cubic foot per minute = 0.0004719 m3/s.
a. Exhaust equipment shall be tested and rated in accordance with HVI 916.

3. Add new standard to Chapter 44 as follows:

HVI Home Ventilating Institute
1000 North Rand Road
Suite 214
Wauconda, IL 60084

HVI
916-09 Airflow Test Procedure

Reason: The purpose of this proposal is to strengthen the requirement for bathroom exhaust ventilation by disallowing the use of windows as the primary exhaust means. Water closet rooms and similar rooms do not have to be mechanically exhausted if they have operable windows.

The existing provisions allow the use of windows for the intended purpose of exhausting of moisture created by the bath, shower or other activities. Windows are not able to directly remove moisture from new housing. This change will improve the code by assuring that bathroom moisture is exhausted outdoors and not simply redistributed in the home. Odors can sometimes be vented using windows, depending on the design of the house, the weather, and the occupants, and is "self-induced". But moisture is a much bigger concern.

Substantiation: Bathing and other bathroom activities produce large quantities of moisture, as well as a wide spectrum of other contaminants. Modern houses with low infiltration and low-window use rates do not have sufficient ventilation to be able to cope with moisture being dispersed throughout the home, especially the moisture created due to bathing. This is especially true in humid climates and severe climates. Moisture must be removed to avoid health problems and damage to the home such as those that might be caused by molds. Even if opened, windows do not always exhaust air; air just as often comes in as goes out. So for roughly half the time windows are opened, the windows do not exhaust moisture but push it into the rest of the house. Further, a study commissioned by the California Air Resources Board and California Energy Commission found that of 1,448 new households, 29% did not open their windows at all during the winter, demonstrating that installation of operable windows does not in itself provide a reliable method for moisture control.

The reference to HVI 916 is provided to ensure that fans comply with industry standards for air flow verification. As a point of reference, MN state code 7672.1000 currently references HVI 916. HVI 916 is also referenced by Energy Star's Ventilation Fan Specification for measurement and verification of fan flow rates (note that NO on-site measurement or verification is required).

Bibliography: ASHRAE Standard 62.2-2007 *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings http://www.ashrae.org/technology/page/548*

Offermann, F.J., et al., "Window usage, ventilation, and formaldehyde concentrations in new California homes: summer field sessions", in IAQ 2007, Healthy and Sustainable Buildings. 2007, American Society of Heating Refrigerating, and Air Conditioning Engineers, Inc.: Baltimore, MD. p. 497-526 (preprints); http://www.iee-sf.com/pdf/SummerFieldResults.pdf.

Cost Impact: This proposal will increase the cost of construction in those cases where bathroom exhaust fans are not currently installed.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME:Ferguson-RB-2-R202-R303.3-M1507

RM17–09/10

R202 (New), R303.1, R303.3, M1507.1, M1507.3 (New), M1507.3.1 (New), M1507.3.2 (New), M1507.3.3 (New), Table M1507.3.3(1) (New), Table M1507.3.3(2) (New), M1507.4, Table M1507.4

Proponent: Mike Moore, Newport Ventures, Inc., representing Broan NuTone

1. Add new definitions as follows:

LOCAL EXHAUST. An exhaust system that uses one or more fans to exhaust air from a specific room or rooms within a dwelling

WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM. An exhaust system, supply system, or combination thereof that is designed to mechanically exchange indoor air for outdoor air for the purpose of diluting and removing indoor air contaminants within a dwelling. The system is designed to provide ventilation air continuously or through a programmed intermittent schedule to satisfy the ventilation rates required for the whole house. Local exhaust or supply fans can serve as such a system.

2. Revise as follows:

R303.1 Habitable rooms. All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural *ventilation* shall be through windows, doors, louvers or other *approved* openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.

Exceptions:

1. The glazed areas need not be openable where the opening is not required by Section R310 and ~~an *approved* mechanical *ventilation* system capable of producing 0.35 air change per hour in the room is installed or~~ a whole-house mechanical *ventilation* system is installed ~~capable of supplying outdoor *ventilation* air of 15 cubic feet per minute (cfm) (78 L/s) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom~~ in accordance with Section M1507.

2. The glazed areas need not be installed in rooms where Exception 1 above is satisfied and artificial light is provided capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.
3. Use of sunroom *additions* and patio covers, as defined in Section R202, shall be permitted for natural *ventilation* if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.

R303.3 Bathrooms. Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet (0.3 m2), one-half of which must be openable.

Exception: The glazed areas shall not be required where artificial light and a ~~mechanical ventilation~~ local exhaust system are provided. The minimum local exhaust ~~ventilation~~ rates shall be determined in accordance with Section M1507.4. ~~50 cubic feet per minute (24 L/s) for intermittent ventilation or 20 cubic feet per minute (10 L/s) for continuous ventilation~~. ~~Ventilation~~ Exhaust air from the space shall be exhausted directly to the ~~outside~~ outdoors.

M1507.1 General. Where local exhaust or whole-house mechanical ventilation is provided ~~toilet rooms, and bathrooms are mechanically ventilated,~~ the ~~ventilation~~ equipment shall be designed in accordance with this section.

3. Add new text and tables as follows:

M1507.3 Whole-house mechanical ventilation system. Whole-house mechanical ventilation systems shall be designed in accordance with Sections M1507.3.1 through M1507.3.3.

M1507.3.1 System design. The whole-house ventilation system shall consist of one or more supply or exhaust fans or a combination of such and associated ducts and controls. Where local supply or exhaust fans are used as part of such a system, they shall be tested and rated in accordance with HVI 916, and the fans' rated flow at 0.25 in w.c. static pressure shall equal or exceed the required ventilation rate determined by Section M1507.3.3. Outdoor air ducts connected to the return side of an air handler shall be considered to provide supply ventilation.

M1507.3.2 System Controls. The whole-house mechanical ventilation system shall be provided with controls that enable manual override.

M1507.3.3 Mechanical ventilation rate. The whole-house mechanical ventilation system shall provide outdoor air at a continuous rate not less than that determined in accordance with Table M1507.3.3(1).

Exception: The whole-house mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25% of each 4 hour segment and the ventilation rate prescribed in Table M1507.3.3(1) is multiplied by the factor determined in accordance with Table M1507.3.3(2).

TABLE M1507.3.3(1)
CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

Dwelling Unit Floor Area (square feet)	Number of Bedrooms				
	0-1	2-3	4-5	6-7	>7
	Airflow in CFM				
<1500	30	45	60	75	90
1501-3000	45	60	75	90	105
3001-4500	60	75	90	105	120
4501-6000	75	90	105	120	135
6001-7500	90	105	120	135	150
>7500	105	120	135	150	165

TABLE M1507.3.3(2)
INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS[a, b]

Run-Time Percentage In Each 4 Hour Segment	25%	33%	50%	66%	75%	100%
Factor[a]	4	3	2	1.5	1.3	1.0

a. For ventilation system run time values between those given, the factors are permitted to be determined by interpolation.
b. Extrapolation beyond the table is prohibited.

4 Revise as follows:

M1507.43 Local exhaust rates ~~Ventilation rate~~. Local exhaust ~~Ventilation~~ systems shall be designed to have the capacity to exhaust the minimum air flow rate determined in accordance with Table M1507.43.

TABLE M1507.43
MINIMUM REQUIRED LOCAL EXHAUST RATES FOR ONE- AND TWO-FAMILY DWELLINGS

AREA TO BE ~~VENTILATED~~ EXHAUSTED	~~VENTILATION~~ EXHAUST RATES
Kitchens	100 cfm intermittent or 25 cfm continuous
Bathrooms—Toilet Rooms	Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous

For SI: 1 cubic foot per minute = 0.4719 L/s.

Reason: This proposal is intended to provide clear guidance to builders and code officials on the design and specification of mechanical ventilation systems for homes IF such systems are installed. Instead of mandating mechanical ventilation, it provides much needed guidance on both whole-house mechanical ventilation systems and local exhaust, including definitions of the same. The language proposed serves to streamline the code by placing all requirements for mechanical ventilation systems within the current M1507, which is aptly titled "Mechanical Ventilation".

Language that is proposed for M1507 is basically a distilled version of ASHRAE 62.2. The proposed language is intended to take ASHRAE's ten page standard and reduce it to the nuts and bolts of mechanical ventilation that are simple and straightforward. ASHRAE has issued a copyright release for the table of whole-house ventilation rates. Not only are these the same rates in ASHRAE 62.2, but they are also the same rates that are now referenced in the state building codes of California and Maine as well as being referenced within the National Green Building Standard.

Similarly, the intermittent multipliers are sourced from ASHRAE 62.2 and are included to provide builders with more options for delivering equivalent ventilation.

Cost Impact: Because this language does not require whole house mechanical ventilation or local exhaust, it will not in itself increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: Moore-RB-1-R202-R303-M1507

RM18–09/10

R303.1, R303.4 (New), R303.4.1 (New), Table R303.4.1(1) (New), Table R303.4.1(2) (New), R303.4.2 (New), R303.4.3 (New), Chapter 44 (New)

Proponent: Steve Ferguson, American Society of Heating, Refrigerating, and Air-Conditioning Engineers

1. Revise as follows:

R303.1 Habitable rooms. All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural *ventilation* shall be through windows, doors, louvers or other *approved* openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.

Exceptions:

~~1. The glazed areas need not be openable where the opening is not required by Section R310 and an *approved* mechanical *ventilation* system capable of producing 0.35 air change per hour in the room is~~

~~installed or a whole-house mechanical *ventilation* system is installed capable of supplying outdoor *ventilation* air of 15 cubic feet per minute (cfm) (78 L/s) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom.~~

~~2~~1. The glazed areas need not be installed in rooms where Exception 1 above is satisfied and artificial light is provided capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

~~3~~2. Use of sunroom *additions* and patio covers, as defined in Section R202, shall be permitted for natural *ventilation* if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.

2. Add new text and tables as follows:

R303.4 Mechanical ventilation. Dwelling units shall be provided with a mechanical exhaust system, supply system, or combination thereof to provide whole-building ventilation with outdoor air. Such system shall comply with Sections R303.4.1 through R303.4.3.

Exception: Dwelling units in climate zones 1 and 2 where refrigeration air conditioning is not installed.

R303.4.1 Mechanical ventilation rate. The mechanical ventilation system shall provide outdoor air continuously at a rate of not less than that determined in accordance with Table R303.4.1(1).

Exception: Continuous operation of the system is not required where the system completes a cycle at least once every 6 hours and the ventilation rate prescribed in Table R303.4.1(1) is multiplied by the factor determined in accordance with Table R303.4.1(2).

TABLE R303.4.1(1)
MECHANICAL VENTILATION AIR REQUIREMENTS, (cfm)

Floor Area Dwelling Unit (square feet)	Number of Bedrooms				
	0-1	2-3	4-5	6-7	>7
	Outdoor Airflow Rate in CFM				
<1500	30	45	60	75	90
1501-3000	45	60	75	90	105
3001-4500	60	75	90	105	120
4501-6000	75	90	105	120	135
6001-7500	90	105	120	135	150
>7500	105	120	135	150	165

TABLE R303.4.1(2)
INTERMITTENT MECHANICAL VENTILATION RATE FACTORS[a, b]

Ventilation System Percent Run-Time Based on a 24 Hour Period	25%	33%	50%	66%	75%
Factor	4	3	2	1.5	1.3

a. Interpolation between entries is permitted.
b. The ventilation system run time shall be not less than 25%.

R303.4.2 System design. The required whole-house ventilation system shall consist of one or more supply or exhaust fans or a combination thereof and associated ducts and controls. Where local supply or exhaust fans are used as part of such a system, they shall be tested and rated in accordance with HVI 916, and the fan airflow rate shall be taken at 0.25 in w.c. static pressure. Outdoor air ducts connected to the return side of an air handler shall be considered to be supply ventilation where the manufacturer's requirements for minimum return air temperature for the air handler are met.

R303.4.3 System Controls. The mechanical ventilation system shall be provided with controls that enable occupant override.

3. Add new standard to Chapter 44 as follows:

HVI Home Ventilating Institute
1000 North Rand Road
Suite 214
Wauconda, IL 60084

HIV 916-09 Airflow Test Procedure

Reason: The purpose of this proposal is to provide modest levels of continuous mechanical ventilation in detached one- and two-family houses and low-rise townhouses in order to provide minimum levels of ventilation.

For health and safety reasons, minimum ventilation is necessary to provide acceptable indoor air quality. Modern homes are much tighter than the building stock and do not provide adequate ventilation through air leakage or infiltration. Occupants do not operating windows to provide minimum ventilation levels. Providing continuous mechanical ventilation is required to provide minimum ventilation rates in current construction.

Substantiation: Ventilation is used to control pollutant concentrations in buildings. These pollutants are emitted from building materials, consumer products, and from occupants themselves. Continuous mechanical ventilation reduces these large concentrations and reduces the large exposures for building occupants.

Because of the effects it has on health, comfort, and serviceability, indoor air quality in our homes is becoming of increasing concern to many people. According to the American Lung Association elements within our homes have been increasingly recognized as threats to our respiratory health. The Environmental Protection Agency lists poor indoor air quality as the forth-largest environmental threat to our country. Asthma is leading serious chronic illness of children in the U.S. Moisture-related construction defects and damage are on the increase in new houses. A 2007 California study revealed formaldehyde exposure in most new homes is beyond limits recommended by the California Air Resources Board. Minimum residential ventilation can improve many of these indoor air quality problems.

ASHRAE Standard 62.2-2007 is the only national consensus standard on residential ventilation rates. ASHRAE, the American Society of Heating, Refrigerating and Air-conditioning Engineers, has been setting minimum ventilation rates for buildings for over 100 years in order to provide acceptable indoor air quality. The rates in this proposal are the minimum rates as incorporated in the current version of Standard 62.2. As an ANSI standard, these rates represent the consensus of a balanced committee and have undergone extensive public review.
Sherman and Hodgson (2002) have shown that the rates in this proposal are barely sufficient to dilute the typical amount of formaldehyde emitted in typical new construction. The consensus of knowledgeable and balanced experts supports the ventilation rates in Standard 62.2-2007. As of the drafting of this proposal, several states have adopted similar ventilation requirements (e.g. MN, VT, WA, CA, ME). Of these, California and Maine have now adopted ASHRAE 62.2 by reference.

Price and Sherman (2006) have shown that occupants of new homes do not operate their windows and doors sufficiently to meet minimum ventilation requirements through controlled openings. While there are 20% of the population who would manage their windows effectively during mild periods, the vast majority of occupants keep their windows closed most of the time and do not get sufficient ventilation from window and door operation.

Sherman and Chan (2006) have reviewed air tightness data. New houses are substantially tighter than the existing stock and do not get enough ventilation through air infiltration and air leakage to meet minimum rates. Walker and Sherman (2006) have shown that the energy costs of meeting ASHRAE Standard 62.2 would be substantially higher for a house that was leaky enough to meet it through infiltration.

The reference to HVI 916 is provided to ensure that fans comply with industry standards for air flow verification. As a point of reference, MN state code 7672.1000 currently references HVI 916. HVI 916 is a consensus standard that is also referenced by Energy Star's Ventilation Fan Specification for measurement and verification of fan flow rates (note that NO on-site measurement or verification is required).

Bibliography: ASHRAE Standard 62.2-2007 *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings.* http://www.ashrae.org/technology/page/548

Price, P.N. and M.H. Sherman "Ventilation Behavior and Household Characteristics in New California Houses," April 2006. LBNL-59620 http://epb.lbl.gov/Publications/lbnl-59620.pdf

Sherman, M. H. and A.T. Hodgson. "Formaldehyde as a Basis for Residential Ventilation Rates", 2002. LBNL-49577. http://epb.lbl.gov/Publications/lbnl-49577.pdf

Walker, I. S. and M. H. Sherman "Evaluation of Existing Technologies for Meeting Residential Ventilation Requirements." 2006. LBNL-59998. http://epb.lbl.gov/Publications/lbnl-59998.pdf

Sherman, M.H., Chan W. R., "Building Airtightness: Research and Practice" in Building Ventilation: the state of the art, (Santamouris, Wouters, Eds) Earthscan ISBN-13: 978-1-84407-130-2 pp. 137-162, 2006, http://epb.lbl.gov/Publications/lbnl-53356.pdf

Offermann, F.J., et al., "Window usage, ventilation, and formaldehyde concentrations in new California homes: summer field sessions", in IAQ 2007, Healthy and Sustainable Buildings. 2007, American Society of Heating Refrigerating, and Air Conditioning Engineers, Inc.: Baltimore, MD. p. 497-526 (preprints); http://www.iee-sf.com/pdf/SummerFieldResults.pdf

Cost Impact: The proposal will increase the cost of construction modestly by requiring a mechanical fan system rated for continuous operation.

Analysis: The proposed exception to Section R303.4.1 provides no definition or criteria for the required run cycle. For example, if 25% run time is chosen, the system would have to run 6 hours a day, but, it is not indicated how that 6 hours is to be distributed across the required number of cycles.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Ferguson-RB-1-R303.1-R303.5

RM19–09/10
R303.4.1

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

Revise as follows:

R303.4.1 Intake openings. Mechanical and gravity outdoor air intake openings shall be located a minimum of 10 feet (3048 mm) from any hazardous or noxious contaminant, 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) of an intake opening, such opening shall be located a minimum of ~~2~~ 3 feet (~~610~~ 914 mm) below the contaminant source.

For the purpose of this section, the exhaust from *dwelling* unit toilet rooms, bathrooms and kitchens shall not be considered as hazardous or noxious.

Reason: This dimension is inconsistent with many other code books such as IMC-401.4 #3; IRC-G2427.6.6 and G2427.8 #1; IFGC-503.6.7; IFGC-618.5 and IFGC-503.8 #1. This 3-foot dimension has been around for years and was also found in the legacy codes. It's important that sources of contamination don't make its way into building openings and there have still been issues where 2 feet doesn't work. This dimension was also changed last cycle in M22. Also, proposals have been submitted to the plumbing to complete the transition.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: McMann-RB-1-R303.4.1

RM20–09/10
M1601.1, M1601.1.1

Proponent: Sam Dardano, City of Boulder, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

M1601.1 Duct design. Duct systems serving heating, cooling and ventilation equipment shall be ~~fabricated~~ installed in accordance with the provisions of this section and ACCA Manual D or other approved methods

M1601.1.1 Above-ground duct systems. Above-ground duct systems shall conform to the following:

1. Equipment connected to duct systems shall be designed to limit discharge air temperature to a maximum of 250°F (121°C).
2. Factory-made air ducts shall be constructed of Class 0 or Class 1 materials as designated in Table M1601.1.1(1)
3. Fibrous duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards.
4. Minimum thickness of metal duct material shall be as listed in Table M1601.1.1(2). Metallic ducts shall be fabricated in accordance with *SMACNA Duct Construction Standards Metal and Flexible*. Galvanized steel shall conform to ASTM A 653.
5. Use of gypsum products to construct return air ducts or plenums is permitted, provided that the air temperature does not exceed 125°F (52°C) and exposed surfaces are not subject to condensation.
6. *Duct systems* shall be constructed of materials having a flame spread index not greater than 200.
7. Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions:
   - 7.1. These cavities or spaces shall not be used as a plenum for supply air.
   - 7.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly.
   - 7.3. Stud wall cavities shall not convey air from more than one floor level.
   - 7.4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight fitting fire blocking in accordance with Section R602.8.

Reason: Ducts are not fabricated according to Manual D, they are installed according to that standard. Ducts in general are fabricated according to the SMACNA Standard. This is a simple clarification.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Dardano-RM-1-M1601.1

RM21–09/10
M1601.1.1

Proponent: Sam Dardano, City of Boulder, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

M1601.1.1 Above-ground duct systems. Above-ground duct systems shall conform to the following:

1. Equipment connected to duct systems shall be designed to limit discharge air temperature to a maximum of 250°F (121°C).
2. Factory-made air ducts shall be constructed of Class 0 or Class 1 materials as designated in Table M1601.1.1(1)
3. Fibrous duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards.
4. Minimum thickness of metal duct material shall be as listed in Table M1601.1.1(2). Galvanized steel shall conform to ASTM A 653.
5. Use of gypsum products to construct return air ducts or plenums is permitted, provided that the air temperature does not exceed 125°F (52°C) and exposed surfaces are not subject to condensation.
~~6.~~ ~~*Duct systems* shall be constructed of materials having a flame spread index not greater than 200.~~
~~7~~6. Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions:

   ~~7.1~~. 6.1. These cavities or spaces shall not be used as a plenum for supply air.
   ~~7.2~~. 6.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly.
   ~~7.3~~. 6.3. Stud wall cavities shall not convey air from more than one floor level.
   ~~7.4~~. 6.4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight fitting fire blocking in accordance with Section R602.8.

Reason: # 6 is broken. It doesn't say or qualify what kind of duct system it's referring to. This is a great example of poor code language that's not enforceable or able to be explained with any certainty. What makes this stand out is that it does not have to meet a 25 flame-spread rating as # 2 requires?

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Dardano-RM-4-M1601.1.1

RM22–09/10
Table M1601.1.1(2)

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

Revise as follows:

TABLE M1601.1.1(2)
GAGES OF METAL DUCTS AND PLENUMS USED FOR HEATING OR COOLING

	Galvanized		Aluminum
DUCT SIZE	**Minimum thickness inches and (mm)**	**Equivalent galvanized ~~sheet~~ gauge no.**	**Minimum thickness (in.)**
Round ducts and enclosed rectangular ducts			
14" or less	.0157 (.3950 mm)	28	~~.0175~~ .0145
16 and 18 inch	.0187 (.4712 mm)	26	.018
20 inch and over	.0236 (.6010 mm)	24	.023
Exposed rectangular ducts			
14" or less	.0157 (.3950 mm)	28	~~.0175~~ .0145
Over 14" [a]	.0187 (.4712 mm)	26	.018

For SI: 1 inch = 25.4 mm.

a. For duct gages and reinforcement requirements at static pressures of 1/2 inch, 1 inch and 2 inches w.g., SMACNA *Duct Construction Standard*, Tables 2-1; 2-2 and 2-3 shall apply.

Reason: This is to correct an error. The maximum was typed instead of the minimum.

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

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

ICCFILENAME: McMann-RM-3-T. M1601.1.1(2)

RM23–09/10
1601.4.1

Proponent: Sam Dardano, City of Boulder, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Delete and substitute as follows:

~~**M1601.4.1 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, "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" 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 1½ 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 manufacturers' 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.~~
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.~~

M1601.4.1 Joints, seams and connections. All longitudal 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 or tapes. Closure systems used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181 B-FX" for pressure sensitive tape or "181 B-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 manufacturers' instructions. Round metallic ducts shall be mechanically fastened by means of at least three sheet metal screws or rivets spaced equally around the joint. Unlisted duct tape shall not be permitted as a sealant on any duct.

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: This text is being replaced with that of the IMC. The IMC language is more concise and complete. The language covering contact lap is deliberately deleted as it is inconsistent with the SMACNA Standard which calls for a one inch lap. Also language covering unlisted tape is not present in the IRC text. This is strictly editorial in nature with no new content.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Dardano-RM-2-M1601.4.1

RM24–09/10
M1601.4.1

Proponent: William Easterling, Sr., Grand Haven, MI

Revise as follows:

M1601.4.1 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 11/2 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 manufacturer'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.
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.
4. Cleats and other mechanical lap joints of metal duct systems that are not located in a garage, that operate at static pressures less than 2 inches of water column (500 Pa) pressure classification and that are located on the conditioned side of the building thermal envelope shall not require additional closure systems.

Reason: As acknowledged by the duct tightness test exception found in IRC N1103.2.2, duct systems located within the conditioned space should not be held to the same tightness requirements as duct systems located outside of the conditioned space. Additionally cleats and mechanical lap joints should be defined as a recognized approved closure system in this application.

Cost Impact: Should reduce the unnecessary cost of applying mastics and tapes to duct system joints located within the conditioned space.

Analysis: It may not be generally understood what is meant by "cleat and mechanical lap joints".

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Easterling-RM-1-M1601.4.1

RM25–09/10
M1601.4.8 (New), Chapter 44 (New)

Proponent: Steve Ferguson, American Society of Heating, Refrigerating, and Air-Conditioning Engineers

1. Add new text as follows:

M1601.4.8 Duct leakage. HVAC systems that include air handlers located in a garage or return air ducts located in a garage or both, shall have a total system air leakage of not more than 6% of the total fan airflow when measured at 0.1 in w.c. (25 Pa) static pressure using test method B of ASTM E 1554. The test shall be conducted with the garage door open to the outdoors and the supply and return leakage results shall be added to get the total system air leakage.

2. Add new standard to Chapter 44 as follows:

ASTM E 1554-03 Standard Test Methods for Determining External Air Leakage of Air Distribution Systems by Fan Pressurization

Reason: The purpose of this proposal is to add requirements to prevent the migration of contaminants (including carbon monoxide) from attached garages to occupiable spaces.

Garages attached to residences may contain numerous sources of air contaminants. These contaminants can be transported into the residence through either leaks in the separating walls or through leaky air handlers and ducts. This change will improve the code by reducing the potential for contaminant transport from garages into residences.

Substantiation: Many pollutant sources are commonly stored or used in residential attached garages such as gasoline-fired engines (automobiles, lawnmowers, etc.), paints, and solvents. Pressure differences across air leakage paths between the garage and adjoining living space can result in the transport of these contaminants to the living space. Factors influencing this transport include temperature differences, wind, the placement of the air handler or ducts in the garage, duct leakage, and equipment operation, such as exhaust fans and vented combustion appliances. A recent literature review (Emmerich et al. 2003) found substantial evidence that transport of contaminants from garages has the potential to negatively impact residential indoor air quality in either an acute or chronic manner.

Traditional practice assumed that garages were leaky structures and that infiltration would keep garages adequately ventilated. However, conventional construction practice for garages today result in significantly tighter structures with little infiltration and elevated contaminant concentrations in the garage. In fact, recent field measurements (Emmerich et al. 2003) have found that the envelopes of modern attached garages can be as tight as the envelopes of houses. Additionally, houses with HVAC system air handlers and ducts in the garage provide another potential pathway for pollutants to travel from garages to living spaces. Many studies have found that typical HVAC systems and their ductwork can be very leaky. Limiting the leakage of such systems located in garages will reduce the potential for contaminants to be transported into houses via this pathway. A simple test is needed to verify that air handlers and ductwork in garages is not excessively leaky.

Note that per Interpretation IC 62.2-2004-3 of ANSI/ASHRAE Standard 62.2-2004, test method B of ANSI/ASTM E1554-03 is considered to be an equivalent test method to the California Title 24 method which is currently listed in Standard 62.2.

Bibliography:
ANSI/E1554-03 (2003) *Standard Test Methods for Determining External Air Leakage of Air Distribution Systems by Fan Pressurization*.

Cost Impact: This proposal will increase the cost of construction in those cases where ducts or air handlers are located in garages thus requiring an air leakage test.

Analysis: The proposed text does not indicate which total fan airflow rate to use for the 6% leakage limit calculation. Residential system airflow rates differ between heating and cooling modes.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME:Ferguson-RM-1-M1601.4.8-Ch 44

RM26–09/10
M1601.5.2

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M1601.5.2 Materials. The under-floor space, including the sidewall insulation, shall be formed by materials having flame spread ~~ratings~~ index values not greater than 200 when tested in accordance with ASTM E84 or UL 723.

Reason: UL 723 is an alternative standard to ASTM E84, as determined in the last code cycle.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-8-M1601.5.2

RM27–09/10
M1804.2.6, Chapter 44 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

M1804.2.6 Mechanical draft systems. Mechanical draft systems shall comply with UL 378 and shall be installed in accordance with their listing, the manufacturer's installation instructions and, except for direct vent appliances, the following requirements:

1. The vent terminal shall be located not less than 3 feet (914 mm) above a forced air inlet located within 10 feet (3048 mm).
2. The vent terminal shall be located not less than 4 feet (1219 mm) below, 4 feet (1219 mm) horizontally from, or 1 foot (305 mm) above any door, window or gravity air inlet into a dwelling.
3. The vent termination point shall not be located closer than 3 feet (914 mm) to an interior corner formed by two walls perpendicular to each other.
4. The bottom of the vent terminal shall be located at least 12 inches (305 mm) above finished ground level.
5. The vent termination shall not be mounted directly above or within 3 feet (914 mm) horizontally of an oil tank vent or gas meter.
6. Power exhauster terminations shall be located not less than 10 feet (3048 mm) from lot lines and adjacent buildings.
7. The discharge shall be directed away from the building.

2. Add new standard to Chapter 44 as follows:

UL 378-06 Draft Equipment

Reason: UL 378 includes a comprehensive set of construction and performance requirements that are used to evaluate and list draft equipment. Five companies currently have draft equipment listed.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-10-M1804.2.6

RM28–09/10
M1805.4 (New)

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

Add new text as follows:

M1805.4 Factory-built chimney off-sets. Factory-built chimneys shall comply with Section R1005. Changes of direction in an offset shall not exceed an angle of 30°.

Reason: This is an important pointer to direct the user to the proper code section addressing chimney off-sets because the body of the text is not located in this section. This is a logical section to refer to initially for this subject matter and will speed up the process in locating the needed information.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: McMann-RM-8-M1805.4

RM29–09/10
Chapter 19

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

CHAPTER 19
SPECIAL ~~FUEL-BURNING~~ APPLIANCES, EQUIPMENT AND SYSTEMS

Reason: Rename the chapter, because it covers more than just fuel-burning equipment

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-12-Ch 19

RM30–09/10
M1901.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M1901.1 Clearances. Freestanding or built-in ranges shall have a vertical clearance above the cooking top of not less than 30 inches (762 mm) to unprotected combustible material. Reduced clearances are permitted in accordance with the listing and labeling of the range hoods or appliances. Installation of a listed and labeled cooking appliance or microwave oven over a listed and labeled cooking appliance shall be in accordance with Section 1504.1. Clearances for a domestic open-top broiler unit shall be in accordance with Section M1505.1.

Reason: Section M1504.1 provides specific direction on the appropriate vertical clearance for microwave ovens over a cooking top as part of the Listed and labeled appliance investigation. Section M1505.1 further limits the vertical clearance for domestic open broilers to materials above.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-14-1901.1

RM31–09/10
M1901.2, Chapter 44 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

M1901.2 Cooking appliances. ~~Household~~ Cooking appliances shall be listed and labeled for household use and shall be installed in accordance with the manufacturer's installation instructions. The installation shall not interfere with combustion air or access for operation and servicing. Electric cooking appliances shall comply with UL 1026 or UL 858. Solid-fuel-fired fireplace stoves shall comply with UL 737.

2. Add new standards to Chapter 44 as follows:

UL 737-07 Fireplace Stoves
UL 858-05 Household Electric Ranges – with revisions through November 2007
UL 1026-07 Electric Household Cooking and Food Serving Appliances

Reason: UL 858 is already referenced in Section 917.1 of the International Mechanical Code. UL 737, UL 858 and UL 1026 all include a comprehensive set of construction and performance requirements that are used to evaluate and list cooking equipment specifically for use in dwelling units.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-16-1901.2-Ch 44

RM32–09/10
M1901.3 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Add new text as follows:

M1901.3 Prohibited location. Cooking appliances designed, tested, listed and labeled for use in commercial occupancies shall not be installed within dwelling units or within any area where domestic cooking operations occur.

Reason: Commercial cooking appliances are prohibited by the IMC (Sections 917.2 and 917.3) in dwelling units due to the difference in temperature requirements and operations between commercial and household appliances. This prohibition should also be in the IRC for consistency.

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

Analysis: Sections G2447.2 and G2447.3 address the issue for gas-fired cooking appliances.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-18-1901.3

RM33–09/10
M1902.2, Chapter 44 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

M1902.2 Installation. Sauna heaters shall be installed in accordance with the manufacturer's installation instructions. Sauna heaters shall comply with UL 875.

2. Add new standard to Chapter 44 as follows:

UL 875-09 Electric Dry-Bath Heaters

Reason: UL 875 is already referenced in Section 914.2 of the International Mechanical Code, and includes a comprehensive set of construction and performance requirements that are specifically used to evaluate and list sauna heaters. Four companies currently have listings for sauna heaters.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-20-1902.2-Ch 44

RM34–09/10
M1903.1, Chapter 44 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

M1903.1 General. Stationary fuel cell power plants having a power output not exceeding 1,000 kW, shall ~~be tested in accordance~~ comply with ~~ANSI Z21.83~~ ANSI/CSA America FC 1 and shall be installed in accordance with the manufacturer's installation instructions and NFPA 853.

2. Add new standard to Chapter 44 as follows:

ANSI/CSA America FC1-03 Stationary Fuel Cell Power Systems

Reason: The standard ANSI Z21.83 has been superseded by ANSI/CSA America FC 1. This change would correlate the IRC with IMC Section 924.1 and IFGC Section 633.1. Changing to the FC1 standard also harmonizes with NFPA 853. The standard establishes construction and performance requirements.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-13-1903.1-Ch 44

RM35–09/10
M2001.1.1, Chapter 44 (New)

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

M2001.1.1 Standards. Oil-fired boilers and their control systems shall be listed and labeled in accordance with UL 726. Electric boilers and their control systems shall be listed in accordance with UL 834. Solid-fuel-fired boilers shall be listed and labeled in accordance with UL2523. Boilers shall be designed and constructed in accordance with the requirements of ASME CSD-1 and as applicable, the ASME *Boiler and Pressure Vessel Code* , Sections I and IV. Gas-fired boilers shall conform to the requirements listed in Chapter 24.

2. Add new standard to Chapter 44 as follows:

UL 2523-09 Outline of Investigation for Solid Fuel-Fired Water Heaters and Boilers

Reason: The UL Subject 2523 Outline of Investigation includes a comprehensive set of construction and performance requirements that are used to evaluate and list factory built manually and/or automatically fueled solid fuel-fired boilers.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-15-M2001.1.1-Ch 44

RM36–09/10
M2005.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M2005.1 General. Water heaters shall be installed in accordance with the manufacturer's installation instructions and the requirements of this code. Water heaters installed in an attic shall ~~conform to~~ comply with the requirements of Section M1305.1.3. Gas-fired water heaters shall ~~conform to~~ comply with the requirements in Chapter 24. Domestic electric water heaters shall ~~conform to~~ comply with UL 174 ~~or UL 1453~~. ~~Commercial electric water heaters shall conform to UL 1453.~~ Oiled-fired water heaters shall ~~conform to~~ comply with UL 732.

Reason: The scope of the IRC does not include commercial installations. UL 1453 permits tanks larger than 120 gallons and to be equipped with temperature-regulating controls that permit a water temperature of more than 85°C (185°F). UL 174 limits tank capacity to 120 gallons, and requires a temperature-regulating thermostat having no marked dial setting more than 77°C (171°F) and provided with a stop to prevent adjustment to a higher setting.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-22-M2005.1

RM37–09/10
M2006.1

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

Revise as follows:

M2006.1 General. Pool and spa heaters shall be installed in accordance with the manufacturer's installation instructions. Oil-fired pool heaters shall ~~be tested in accordance~~ comply with UL 726. Electric pool and spa heaters shall ~~be tested in accordance~~ comply with UL 1261.

Reason: This is an editorial revision to use consistent language for referencing product standards..

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-17-M2006.1

RM38–09/10
M2301, M2301.1, M2302 (New), M2302.1 (New), M2302.2 (New), M2302.2.1 (New), M2302.2.2 (New), M2302.2.3 (New), M2302.2.4 (New), M2302.3 (New), M2302.4 (New), Chapter 44

Proponent: Bob Eugene, Underwriters Laboratories, Inc.

1. Revise as follows:

SECTION M2301
THERMAL SOLAR ENERGY SYSTEMS

M2301.1 General. This section provides for the design, construction, installation, alteration and repair of equipment and systems using thermal solar energy to provide space heating or cooling, hot water heating and swimming pool heating.

2. Add new text as follows:

SECTION M2302
PHOTOVOLTAIC SOLAR ENERGY SYSTEMS

M2302.1 General. This section provides for the design, construction, installation, alteration and repair of photovoltaic equipment and systems.

M2302.2 Installation. The installation of photovoltaic systems shall comply with the manufacturer's installation instructions, Sections M2302.2.1 through M2302.2.4 and NFPA 70.

M2302.2.1 Access. Photovoltaic panels, modules, inverters, converters, and combiner boxes shall be accessible for inspection, maintenance, repair and replacement.

M2302.2.2 Roof-mounted panels and modules. Where photovoltaic panels and modules are installed on roofs, the roof shall be constructed to support the loads imposed by such modules. Roof-mounted photovoltaic panels and modules that serve as a roof covering shall conform to the requirements for roof coverings in Chapter 9. Where mounted on or above the roof coverings, the photovoltaic panels and modules and supporting structure shall be constructed of noncombustible materials or fire-retardant-treated wood equivalent to that required for the roof construction.

M2302.2.3 Roof and wall penetrations. Roof and wall penetrations shall be flashed and sealed in accordance with Chapter 9 to prevent entry of water, rodents and insects.

M2302.2.4 Ground-mounted panels and modules. Ground-mounted panels and modules shall be installed in accordance with the manufacturer's installation instructions.

M2302.3 Photovoltaic panels and modules. Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703

M2302.4 Inverters. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.

3. Add new standards to Chapter 44 as follows:

UL 1703-02	Flat-Plate Photovoltaic Modules and Panels – with revisions through April 2008
UL 1741-99	Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources – with revisions through November 2005

Reason: The purpose of the code change is to distinguish between two types of solar systems – thermal and photovoltaic – and provide basic safety requirements for photovoltaic systems.

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

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

ICCFILENAME: Eugene-RM-19-2301-2302-Ch 44