

Code Review

2018 Changes to International Codes

W A R N I N G

Copyright Notice: This document has been reproduced solely for considering proposed changes to the Florida Building Code with the permission of the International Code Council, Inc., is the copyrighted property of the International Code Council, Inc., all rights reserved, and may not be further reproduced or distributed.

W A R N I N G



**FLORIDA
BUILDING
COMMISSION**
"Stronger Codes Through Science and Consensus"

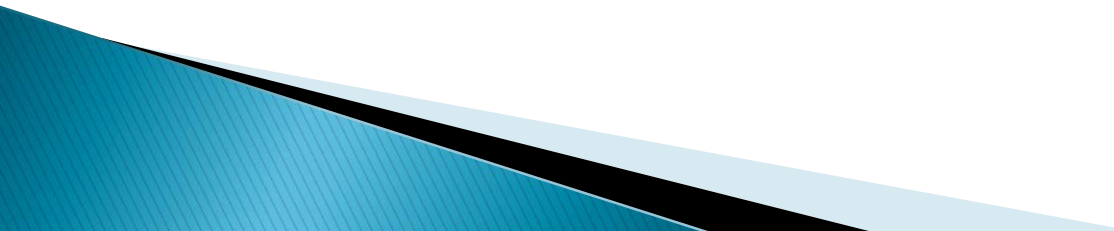
Florida
dbpr
Department of Business and Professional Regulation



Building Codes and Standards

Residential Code (IRC)–(Mechanical)

Mechanical Technical Advisory Committee (TAC)



SAMPLE MATRIX

2018 International Residential Code – Mechanical/Mechanical TAC

IRC-Mechanical Code Change No.	IRC-Mechanical Section	Change Summary b/t 2015 IRC-M and 2018 IRC-M	Change Summary b/t 2017 FRC-M and 2018 IRC -M	Staff comments										
RM1-15	M1305.1.4.2	<p>Entirely revises M1305.1.4.2 to M1305.1.4.2 “Pit Locations.” The language in the IMC and IFGC is much more complete and concise. This modification completes this section and has all the information necessary for a code compliant installation and makes it consistent with the other codes</p> <p>Cost Impact: Will not increase the cost of construction. This proposal is strictly editorial in nature and will not cause an increase in cost.</p>	Same as change between 2015 IRC and 2018 IRC											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #333; color: white;"> <th style="width: 20%;">RCCIWG – Comment</th> <th style="width: 25%;">TAC Action</th> <th style="width: 25%;">Commission Action</th> <th style="width: 10%;">TAC</th> <th style="width: 20%;">Commission</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> Impactful (Explain) <input checked="" type="checkbox"/> </td> <td style="vertical-align: top;"> Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 20px; width: 100%;"></div> </td> <td style="vertical-align: top;"> Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 20px; width: 100%;"></div> </td> <td style="vertical-align: top; text-align: center;"> <input checked="" type="checkbox"/> No Action Needed <input type="checkbox"/> Overlapping provisions </td> <td style="vertical-align: top; text-align: center;"> <input checked="" type="checkbox"/> <input type="checkbox"/> </td> </tr> </tbody> </table>					RCCIWG – Comment	TAC Action	Commission Action	TAC	Commission	Impactful (Explain) <input checked="" type="checkbox"/>	Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<input checked="" type="checkbox"/> No Action Needed <input type="checkbox"/> Overlapping provisions	<input checked="" type="checkbox"/> <input type="checkbox"/>
RCCIWG – Comment	TAC Action	Commission Action	TAC	Commission										
Impactful (Explain) <input checked="" type="checkbox"/>	Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<input checked="" type="checkbox"/> No Action Needed <input type="checkbox"/> Overlapping provisions	<input checked="" type="checkbox"/> <input type="checkbox"/>										
RM15-15	M1503.4, M1503.4.1, M1503.4.2 (New)	<p>Modifies Section M1503.4 “Makeup air required.” Also removes Exception. Adds new Section M1503.4.2 “Makeup air dampers.” Per reasoning Back drafting of combustion appliances typically presents the greatest danger associated with depressurizing a space. The proposal introduces a new section to address MUA dampers specifically, moving the text from M1503.4 to M1503.4.2 and introducing one new requirement for gravity or barometric dampers.</p> <p>Cost Impact: Will not increase the cost of construction.</p>	This change is not similar to that of the FRC. The FRC expands the scope of this section to provide for list of exceptions as required by statutes.	Overlapping provision to be considered during step 2 of the code change process										

Rule 61G20-2.002 2. *Technical amendments needed to accommodate the specific needs of this state include but are not limited to amendments to the Florida Building Code that provide for the following:* a. Establish minimum life safety construction requirements to protect buildings and their occupants from fire, wind, flood, and storm surge using the latest technical research and engineering standards for buildings and materials products. b. Provide for flood protection provisions that are consistent with the latest flood protection requirements of the National Flood Insurance Program. c. Maintain eligibility for federal funding and discounts from the National Flood Insurance Program, the Federal Emergency Management Agency, and the United States Department of Housing and Urban Development. d. Provide for energy efficiency standards for buildings that meet or exceed the national energy standards as mandated by Title III of the Energy Conservation and Protection Act. e. Maintain coordination with the Florida Fire Prevention Code. f. Provide for the latest industry standards and design.

RCCIWG – Comment		TAC Action		Commission Action		TAC		Commission			
Impactful (Explain) <input checked="" type="checkbox"/>		Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> NO: <input checked="" type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain):		Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> NO: <input checked="" type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain):		<input checked="" type="checkbox"/> No Action Needed		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
						<input type="checkbox"/> Overlapping provisions		<input type="checkbox"/>		<input type="checkbox"/>	
RB24-16		<p>R301.2.2, R301.2.2.2, R301.2.2.2.1, R301.2.2.2.2, R301.2.2.2.3, R301.2.2.2.4, R301.2.2.2.5, R301.2.2.3, R301.2.2.3.1, R301.2.2.3.2, R301.2.2.3.3, R301.2.2.3.4, R301.2.2.3.5, R301.2.2.3.6, R301.2.2.3.7, R301.2.2.4, R301.2.2.6.1 (New), R301.2.2.6.2 (New), R301.2.2.6.3 (New), R301.2.2.6.4 (New), R301.2.2.6.5 (New), R301.2.2.6.6 (New), R301.2.2.6.7</p> <p>Modifies text of Section R301.2.2 “Seismic provisions”, R301.2.2.2 “Weights of materials”, R301.2.2.3 “Stone and masonry veneer”, R301.2.2.4 “Masonry construction”, R301.2.2.5 “Concrete construction”, R301.2.2.6 “Irregular buildings”, R301.2.2.7 “Height limitations”, R301.2.2.8 “Cold-formed steel framing in Seismic Design Categories D0, D1 and D2”. Revises text of Section R301.2.2.9 “Masonry chimneys”, R301.2.2.10 “Anchorage of water heaters”, R301.2.2.11 “Seismic Design Category E”. Deleted Section R301.2.2.3.3 Masonry construction R301.2.2.2 Seismic Design Category C. R301.2.2.2.4 Concrete construction. R301.2.2.3 Seismic Design Categories D0, D1 and D2. R301.2.2.3.2 Stone and masonry veneer, R302.3.3.7 “Height Limitations”.</p> <p>The purpose of this code change is to reorganize the seismic provisions of Chapter 3. Builders in regions of the country where seismic design is required have expressed confusion regarding the requirements and limitations of Section R301.2.2</p> <p>Cost Impact: Will not increase the cost of construction. The code change provides an editorial clarification and reorganization to the irregularity and material requirements and limitations in high-seismic areas. No seismic requirements are added or removed with this change, thus there should be no impact on cost.</p>		Same as change between 2015 IRC-B and 2018 IRC-B (Seismic provisions do not apply to buildings in Florida)		No action needed					

Rule 61G20-2.002 2. *Technical amendments needed to accommodate the specific needs of this state include but are not limited to amendments to the Florida Building Code that provide for the following:* a. Establish minimum life safety construction requirements to protect buildings and their occupants from fire, wind, flood, and storm surge using the latest technical research and engineering standards for buildings and materials products. b. Provide for flood protection provisions that are consistent with the latest flood protection requirements of the National Flood Insurance Program. c. Maintain eligibility for federal funding and discounts from the National Flood Insurance Program, the Federal Emergency Management Agency, and the United States Department of Housing and Urban Development. d. Provide for energy efficiency standards for buildings that meet or exceed the national energy standards as mandated by Title III of the Energy Conservation and Protection Act. e. Maintain coordination with the Florida Fire Prevention Code. f. Provide for the latest industry standards and design.

(New)					
RCCIWG – Comment	TAC Action	Commission Action		TAC	Commission
Impactful (Explain) <input checked="" type="checkbox"/>	Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> NO: <input checked="" type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 40px;"></div>	Accommodate Florida Specific Need: YES (Select Criteria) <input checked="" type="checkbox"/> NO: <input checked="" type="checkbox"/> a. <input checked="" type="checkbox"/> b. <input type="checkbox"/> c. <input type="checkbox"/> d. <input type="checkbox"/> e. <input type="checkbox"/> f. <input type="checkbox"/> Others (Explain): <div style="border: 1px solid black; height: 40px;"></div>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>

Rule 61G20-2.002 2. *Technical amendments needed to accommodate the specific needs of this state include but are not limited to amendments to the Florida Building Code that provide for the following:* a. Establish minimum life safety construction requirements to protect buildings and their occupants from fire, wind, flood, and storm surge using the latest technical research and engineering standards for buildings and materials products. b. Provide for flood protection provisions that are consistent with the latest flood protection requirements of the National Flood Insurance Program. c. Maintain eligibility for federal funding and discounts from the National Flood Insurance Program, the Federal Emergency Management Agency, and the United States Department of Housing and Urban Development. d. Provide for energy efficiency standards for buildings that meet or exceed the national energy standards as mandated by Title III of the Energy Conservation and Protection Act. e. Maintain coordination with the Florida Fire Prevention Code. f. Provide for the latest industry standards and design.

Code Change No: RM1-15

Original Proposal

Section: M1305.1.4.2

Proponent: Guy McMann, Jefferson County Colorado, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO) (gmcmmann@jeffco.us)

Delete and substitute as follows:

~~**M1305.1.4.2 Excavations. Pit locations** Excavations for appliance installations shall extend to a depth of 6 inches (152 mm) below the appliance and 12 inches (305 mm) on all sides, except that the control side shall have a clearance of 30 inches (762 mm).~~

Appliances installed in pits or excavations shall not come in direct contact with the surrounding soil and shall be installed not less than 6 inches (152 mm) above the pit floor. The sides of the pit or excavation shall be held back not less than 12 inches (305 mm) from the appliance. Where the depth exceeds 12 inches (305 mm) below adjoining grade, the walls of the pit or excavation shall be lined with concrete or masonry. Such concrete or masonry shall extend not less than 4 inches (102 mm) above adjoining grade and shall have sufficient lateral load-bearing capacity to resist collapse. Excavation on the control side of the appliance shall extend horizontally not less than 30 inches (762 mm). The appliance shall be protected from flooding in an *approved* manner.

Reason: The language in the IMC and IFGC is much more complete and concise. This modification completes this section and has all the information necessary for a code compliant installation and makes it consistent with the other codes

Cost Impact: Will not increase the cost of construction
This proposal is strictly editorial in nature and will not cause an increase in cost.

Report of Committee Action Hearings

Committee Action:

Approved as Modified

Modify as follows:

M1305.1.4.2 Pit locations. Appliances installed in pits or excavations shall not come in direct contact with the surrounding soil and shall be installed not less than ~~6-3~~ inches (152 mm) above the pit floor. The sides of the pit or excavation shall be held back not less than 12 inches (305 mm) from the appliance. Where the depth exceeds 12 inches (305 mm) below adjoining grade, the walls of the pit or excavation shall be lined with concrete or masonry. Such concrete or masonry shall extend not less than 4 inches (102 mm) above adjoining grade and shall have sufficient lateral load-bearing capacity to resist collapse. Excavation on the control side of the appliance shall extend horizontally not less than 30 inches (762 mm). The appliance shall be protected from flooding in an approved manner.

Committee Reason: Approval was based on the proponent's published reason statements. The modification changes an archaic 6 inch dimension to the more commonly required 3 inch dimension.

Assembly Action:

None

Final Action Results

RM1-15

AM

Code Change No: RM3-15

Original Proposal

Section: M1401.3

Proponent: Luis Escobar, representing Air Conditioning Contractors of America (luis.escobar@acca.org)

Revise as follows:

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

Exception: ~~Heating and cooling equipment and appliance sizing shall not be limited to the capacities determined in accordance with Manual S where either of the following conditions applies:~~

- ~~1. The specified equipment or appliance utilizes multistage technology or variable refrigerant flow technology and the loads calculated in accordance with the approved heating and cooling calculation methodology are within the range of the manufacturer's published capacities for that equipment or appliance.~~
- ~~2. The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with the approved heating and cooling calculation methodology and the next larger standard size unit is specified.~~

Reason: The exceptions in the 2015 codes were initially introduced because it was not certain that Manual S would complete full revision prior to the 2015 code's publication. However, ACCA Manual S completed the ANSI consensus revision process in 2014 and is referenced in the 2015 code. This creates a severe contradiction between the IRC and the national consensus standard it references.

The Manual S revision committee that developed the sizing procedures and oversize limits included the manufacturers of multi-stage and variable refrigerant flow (VRF) equipment. Those limits were revised through the public review process and now allow a greater range of equipment to be installed for multi-stage and VRF applications. The published Manual S fully covers the proper procedures for multi-stage and VRF technology agreed upon by designers, manufacturers, and energy advocates.

A study published in September 2014 by the National Institute of Standards and Technology, entitled "Sensitivity Analysis of Installation Faults on Heat Pump Performance", found that the energy penalty for over-sizing HVAC equipment could lead to as much as 20% greater energy use in warm climates. Manual S-2014 however allows a new method of oversizing multi-stage and VRF equipment in cold climates to get the necessary heating performance, while still maintaining appropriate sizing limits for warm climates. BUT the current exceptions apply across the board and will lead to unjustifiable oversizing that cost energy and money.

Bibliography: [Sensitivity Analysis of Installation Faults on Heat Pump Performance][NIST Technical Note 1848][Domanski, Henderson, Payne][2014][www.acca.org/standards/quality]
[Understanding ACCA Manual S][ACCA Special Presentation][Luis Escobar][2014][available upon request luis.escobar@acca.org]
[Residential Equipment Selection][ANSI/ACCA 3 Manual S - 2014][ACCA][2014][www.acca.org/standards/codes]

Cost Impact: Will not increase the cost of construction

See energy consumption results from NIST Study, specifically single fault: equipment sizing. Energy use can increase by up to 24% if oversizing is the only installation fault. The effects are greater with additional installation faults (duct leakage, indoor coil airflow, refrigerant under/over charging, etc.).

Report of Committee Action Hearings

Committee Action:

Approved as Submitted

Committee Reason: Approval was based on the proponent's published reason statements.

Assembly Action:

None

Final Action Results

RM3-15

AS

Code Change No: **RM5-15**

Original Proposal

Section: M1411.6.1 (New)

Proponent: Howard Ahern, representing Airex Mfg. (howard@plumberex.com)

Add new text as follows:

M1411.6.1 Refrigerant line insulation protection Refrigerant Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance and wind. Adhesive tape shall not be considered as a means of protection.

Reason: This code change clarifies that the Refrigerant vapor (suction) line insulation complying with M1411.6 needs to be protected when it is exposed outdoors. There has been confusion from Builders, inspectors and contractors that manufactures marking U.V. on the pipe insulation was all that was needed to protect outdoor Refrigerant vapor (suction) line insulation. The majority of Pipe Insulation Manufacturers for Refrigerant vapor (suction) line insulation already have stated in their technical papers or installation instructions that when using their insulation outdoors it must be protected from UV, weather and other damage such as rodents and birds and that they offer only a limited UV resistance. No elastomeric foam is truly UV resistant.

The damage can also be caused by not only U.V, moisture, wind and damage from equipment maintenance but also oxidation. All these factors will permanently damage the insulations external surface permeability and seriously impact the insulation thermal conductivity which will impact the heating or cooling systems efficiency and resulting in higher electrical cost as the compressor must work harder to compensate for the temperature difference which can lead to a shorter life span of the equipment.

Adhesives break down due to bacteria and moisture, removal of Adhesives tape would destroy the external surface permeability of the insulation required in M1411.6

Cost Impact: Will not increase the cost of construction

This code change will not increase cost of construction in jurisdictions that have adopted the 2102 or the 2015 IECC. Most jurisdictions by 2018 should have adopted one of the IECC codes. This would only be a cost increase to jurisdictions that have not adopted the 2102 or the 2015 IECC. The majority of pipe insulation manufactures already state in their technical papers or instructions that when using their insulation outdoors it must be protected from weather.

Report of Committee Action Hearings

Committee Action:

Approved as Modified

Modify proposal as follows:

M1411.6.1 Refrigerant line insulation protection. Refrigerant piping insulation shall be protected in accordance with Section N1103.4.1. exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance and wind. Adhesive tape shall not be considered as a means of protection.

Committee Reason: Approval was based on the proponent's published reason statements. The modification provides guidance on the protection required and refers back to current code text to avoid redundant text. The committee agreed with the proponent's published reason statement.

Assembly Action:

None

Final Action Results

RM5-15

AM

Code Change No: **RM15-15**

Original Proposal

Section: **M1503.4, M1503.4.1, M1503.4.2 (New)**

Proponent: Mike Moore, Newport Ventures, representing Broan-NuTone, representing Newport Ventures (mmoore@newportventures.net)

Revise as follows:

M1503.4 Makeup air required. Exhaust hood systemsWhere one or more gas-, liquid-, or solid-fuel-burning appliance that is neither direct -vent nor uses a mechanical draft venting system is located within a dwelling unit's air barrier, each exhaust systemcapable of exhausting in excess of 400 cubic feet per minute (0.19 m³/s) shall be mechanically or naturally passively provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one damper complying with Section M1503.4.2. Each damper shall

Exception: Makeup air is not required for exhaust systems installed for the exclusive purpose of space cooling and intended to be a gravity damperoperated only when windows or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replacedair inlets are open.

M1503.4.1 Location. Kitchen exhaust makeup air shall be discharged into the same room in which the exhaust system is located or into rooms or *duct systems* that communicate through one or more permanent openings with the room in which such exhaust system is located. Such permanent openings shall have a net cross-sectional area not less than the required area of the makeup air supply openings.

Add new text as follows:

M1503.4.2 Makeup air dampers Where makeup air is required by Section M1503.4, makeup air dampers shall comply with this section. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced. Gravity or barometric dampers shall not be used in passive makeup air systems except where the dampers are rated to provide the design makeup airflow at a pressure differential of 0.01 in. w.c. (3 Pa) or less.

Reason: Backdrafting of combustion appliances typically presents the greatest danger associated with depressurizing a space. Field tests have confirmed that naturally vented combustion appliances (i.e., those that are not mechanically vented or direct-vent) are the most susceptible to depressurization, and measures should be taken to provide makeup air (MUA) for large exhaust appliances when such appliances are located within the dwelling unit's air barrier. ASHRAE 62.2, the consensus standard for Ventilation and Acceptable Indoor Air Quality in residential dwelling units, does not require MUA when combustion appliances are mechanically vented or are direct-vent. The ASHRAE 62.2 committee recently reviewed the 62.2 section requiring MUA, and the general consensus (no vote taken) was a reaffirmation that the MUA requirement should not apply to mechanically vented or direct-vent combustion appliances, due to lack of data to substantiate their susceptibility to backdrafting.

This proposal would relax the MUA requirement in the IRC by aligning it more closely with ASHRAE 62.2. Similar changes have been made to this section in Florida's and Virginia's adoptions of the IRC.

The proposal introduces a new section to address MUA dampers specifically, moving the text from M1503.4 to M1503.4.2 and introducing one new requirement for gravity or barometric dampers. It makes no sense to design a system to provide MUA if the damper does not open before the combustion appliance starts spilling. So, the new requirement is intended to ensure that when MUA is required, any gravity or barometric damper used to provide MUA shall engage at the pressure differential above which naturally drafted combustion appliances can be expected to backdraft (3 Pa, based on an acceptable 5%-20% failure rate across all

outdoor conditions)'. This proposed requirement only applies to gravity or barometric dampers in "passive" MUA systems, which are those that provide MUA without the assistance of a fan. Gravity or barometric dampers in "active" MUA systems are excluded from this requirement because we assume that the fan will create a sufficient pressure differential to open the damper.

A companion proposal has been submitted to the IMC.

Bibliography:

1. Bohac, D., et al. (2002). Ventilation and Depressurization Information for Houses Undergoing Remodeling. Accessed on Dec 5, 2014 at: <http://www.mncee.org/getattachment/eedb1afc-f50e-4833-b450-d52233f58ce0/>.

Cost Impact: Will not increase the cost of construction

This proposal is expected to reduce construction costs by reducing the number of scenarios requiring makeup air for kitchen exhaust.

Report of Committee Action Hearings

Committee Action:

Approved as Submitted

Committee Reason: Approval was based on the proponent's published reason statements.

Assembly Action:

None

Final Action Results

RM15-15

AS

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m³/s) shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one damper. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced.

Exception: In a single-family dwelling, make-up air is not required for range hood exhaust systems capable of exhausting:

(a) Four hundred cubic feet per minute or less; or

(b) More than 400 cubic feet per minute but no more than 800 cubic feet per minute if there are no gravity vent appliances within the conditioned living space of the structure.