

FG2-12
303.3

Proposed Change as Submitted

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

Revise as follows:

303.3 Prohibited locations. Appliances shall not be located in sleeping rooms, bathrooms, toilet rooms, storage closets or surgical rooms, or in a space that opens only into such rooms or spaces, except where the installation complies with one of the following:

1. The appliance is a direct-vent appliance installed in accordance with the conditions of the listing and the manufacturer's instructions.
2. Vented room heaters, wall furnaces, vented decorative appliances, vented gas fireplaces, vented gas fireplace heaters and decorative appliances for installation in vented solid fuel-burning fireplaces are installed in rooms that meet the required volume criteria of Section 304.5.
3. A single wall-mounted unvented room heater is installed in a bathroom and such unvented room heater is equipped as specified in Section 621.6 and has an input rating not greater than 6,000 Btu/h (1.76 kW). The bathroom shall meet the required volume criteria of Section 304.5.
4. A single wall-mounted unvented room heater is installed in a bedroom and such unvented room heater is equipped as specified in Section 621.6 and has an input rating not greater than 10,000 Btu/h (2.93 kW). The bedroom shall meet the required volume criteria of Section 304.5.
5. The appliance is installed in a room or space that opens only into a bedroom or bathroom, and such room or space is used for no other purpose and is provided with a solid weather-stripped door equipped with an approved self-closing device. All Combustion air shall be taken directly from the outdoors, in accordance with Section 304.6 indoors or a combination of both in accordance with Section 304. Combustion air openings in the enclosure shall not communicate with the prohibited locations listed in this section.

Reason: No designer would ever install a fuel burning appliance in a surgical room and there could conceivably be a long list of other locations where fuel burning appliances should not be installed. There is no technical justification to limit combustion air to outdoor air only in this scenario. Indoor air can be effectively utilized when openings are sized per the code and those openings do not connect the enclosure with the various rooms listed. This could save money avoiding cutting holes in exterior walls and searching for a path for ducts to run which could be very difficult to achieve.

Cost Impact: This proposal may decrease the cost of construction.

303.3-FG-MCMANN

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The code intends to allow only openings to the outdoors because such openings could vent combustion products to the outdoors in the event of appliance vent failure/blockage.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Guy McMann, Jefferson County, Colorado, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO), requests Approval as Submitted.

Commenter's Reason: The committee reason for disapproval revolved around a hypothetical concerning a blocked vent. Disapproval based on this line of reasoning doesn't seem to be logical in this particular scenario. A blocked vent could conceivably occur on any vent at any time. If somehow outside air magically took care of the problem then only outside would be mandated. In this case there is no combustion air passing through the bedroom as this text requires openings to communicate to areas other than the bedroom. If the vent did become blocked the sealed door would aid in preventing flue gas from entering the room. Outside air may dilute the products of combustion but so would the balance of the house. There seems to be some alarmism in this line of thought. There is no technical justification to prohibit combustion air from being obtained from other spaces within the building providing the combustion air doesn't pass through the bedroom. Consider a furnace in a hallway just outside the bedroom; combustion air may be taken from the house if there is enough volume. That same furnace with a blocked vent poses a larger concern because it could communicate to the bedroom or any other room in the building. This proposal will *decrease cost* by permitting inside air to be tapped and thereby eliminating the need to cut holes in outside walls and will aid in energy savings as it provides a much needed option for installers.

FG2-12

Final Action: AS AM AMPC____ D

FG3-12, Part I

303.3.1 (New); IMC: 901.5 (New), 901.6 (New)

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IFGC COMMITTEE AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THIS COMMITTEE.

PART I – IFGC

Add new text as follows:

303.3.1 Fireplaces and decorative appliances in Group I-2 occupancies. In addition to the requirements of Section 303.3, fuel gas-fired fireplaces and decorative appliances in Group I-2 occupancies shall not be located in sleeping rooms, storage closets, surgical rooms, toilet rooms and bathrooms located in the patient sleeping or dwelling units. Fuel gas-fired fireplaces and decorative appliances are permitted in other areas that open into such rooms or spaces only where the installation complies with all of the following:

1. Combustion air is taken directly from the outdoors.
2. Flue gases are discharged directly to the outdoors.
3. Appliance combustion chambers are separated from the environmental air on the interior of the building.
4. Appliances shall automatically shut down and stop fuel flow upon any of the following events:
 - 4.1 when temperatures exceed the appliance listing,
 - 4.2 when there is failure to ignite
 - 4.3 upon activation of the fire alarm system
5. Appliance controls are located in an approved restricted or locked location.
6. A carbon monoxide detector with a local alarm shall be provided and installed in accordance with Section 908.7 of the IBC.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

The AHC is proposing a revision to address some of the oversights in the I-Codes of long-standing and operational requirements for hospitals and healthcare facilities that has not been specifically addressed. The requirements being proposed in this code change have been long-standing provisions of the construction and operational requirements for healthcare facilities.

Justification: The language proposed in the IFGC prescribes the limitations and conditions to provide the necessary safety and limitations of hazards found within the healthcare environments to the fire and ignition sources inherent to all fireplaces and gas-fired appliances. Combustion air is restricted from being drawn from a healthcare environment for more than the last decade. It is standard practice and operational procedure to control the ignition sources in these occupancies that can contain combustible, flammable (and sometimes even explosive) material. Fire risks need to be limited to the maximum extent feasible and specific requirements for these facilities are not currently or completely addressed in the I-Codes. The physical separation of the combustion chambers of fireplaces and gas-fired equipment is required to separate and provide a barrier between the ignition sources and the environmental air within healthcare occupancies. All combustion air is required to be taken directly from the exterior of the building with one exception that is already provided for in IFGC Section 303.3.

The solid fuel burning fireplaces and appliances (decorative or heating) present open flames that cannot otherwise be controlled or extinguished like similar gas-fired appliances. The attention to and the tending of the open flames from solid fuel burning appliances require the opening any surrounding compartment while the flames and ignition sources are present; thereby, exposing the I-2 environment (within the patient smoke compartment) to the ignition sources. When gas-fired appliances are

utilized, the ability to completely control the fuel source and all open flames and ignition sources is possible and does not require exposure to or tending of solid fuel burning materials. The AHC committee is recommending the restriction of solid-fuel burning fireplaces and appliances in the I-2 occupancy.

Future submissions to proposals to the IFC are being drafted to clarify, restrict and limit the ignition source hazards in healthcare occupancies that will reference these requirements being proposed in the IBC, IMC AND IFGC. The code sections that address the installation of fuel gas-fire fireplaces and appliances will also provide alternative means for compliance for existing facilities. Given the hazards present with these appliances in the I-2 Occupancies, the proposed IFC requirements will be 'retro-active' requirements for healthcare occupancies (I-2); please note, these are not new requirements for the I-2 Occupancy facilities but are needed in the I-Codes for coordination of the long-standing provision of the construction and operational requirements for healthcare facilities.

Cost Impact: No increase to the cost of construction for these facilities is associated with these code changes. This change is consistent with existing federal certification requirements.

303.3.1-FG-Williams-Adhoc

Public Hearing Results

PART I – IFGC Committee Action:

Disapproved

Committee Reason: The proposed text refers to section 303 which would allow unvented heaters to be installed in such occupancies. Unvented heaters do not belong in such spaces.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care, requests Approval as Submitted.

Commenter's Reason: The addition of these code requirements into the I-Code are critical to limit fuel gas burning and restrict solid fuel gas burning decorative fire places and equipment in I-2 institutional occupancies. These code change proposals are being put forward by the Adhoc healthcare committee and have been coordinated with the ICC CTC-Care committee; industry representatives on our ahc spoke unanimously that the safety and fire hazards associated with these devices in a healthcare occupancy are a serious hazard and request that the code officials vote to overturn the committee decision.

The committee discussions during the initial action hearings and the report of hearings indicates that the reasons that the committee denied this proposals are the reasons that we are requesting approval as submitted. Unfortunately, our committee members were not in the room to speak to the committee and to clarify that we are requesting limitations and restrictions, not the allowance for these elements in the I-2 occupancy healthcare environments.

Please overturn the committee decision and support approval as submitted for these necessary code requirements and provisions.

The language proposed in the IFGC prescribes the limitations and conditions to provide the necessary safety and limitations of hazards found within the healthcare environments to the fire and ignition sources inherent to all fireplaces and gas-fired appliances. Combustion air is restricted from being drawn from a healthcare environment for more than the last decade. It is standard practice and operational procedure to control the ignition sources in these occupancies that can contain combustible, flammable (and sometimes even explosive) material. Fire risks need to be limited to the maximum extent feasible and specific requirements for these facilities are not currently or completely addressed in the I-Codes. The physical separation of the combustion chambers of fireplaces and gas-fired equipment is required to separate and provide a barrier between the ignition sources and the environmental air within healthcare occupancies. All combustion air is required to be taken directly from the exterior of the building with one exception that is already provided for in IFGC Section 303.3.

The solid fuel burning fireplaces and appliances (decorative or heating) present open flames that cannot otherwise be controlled or extinguished like similar gas-fired appliances. The attention to and the tending of the open flames from solid fuel burning appliances require the opening any surrounding compartment while the flames and ignition sources are present; thereby, exposing the I-2 environment (within the patient smoke compartment) to the ignition sources. When gas-fired appliances are utilized, the ability to completely control the fuel source and all open flames and ignition sources is possible and does not require exposure to or tending of solid fuel burning materials. The AHC committee is recommending the restriction of solid-fuel burning fireplaces and appliances in the I-2 occupancy.

Future submissions to proposals to the IFC are being drafted to clarify, restrict and limit the ignition source hazards in healthcare occupancies that will reference these requirements being proposed in the IBC, IMC AND IFGC. The code sections that address the installation of fuel gas-fire fireplaces and appliances will also provide alternative means for compliance for existing

FG3-12, Part II

303.3.1 (New); IMC: 901.5 (New), 901.6 (New)

Proposed Change as Submitted

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IFGC COMMITTEE AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THIS COMMITTEE.

PART II – IMC

Add new text as follows:

901.5 Fuel gas-fired Fireplaces and appliances in Group I-2. Fuel gas-fired fireplaces and decorative appliances located within smoke compartments containing patient sleeping rooms and surgical rooms in Group I-2 occupancies shall be installed in accordance with Section 303.3.1 of the IFGC.

901.6 Solid fuel-burning fire places and appliances in Group I-2. Solid fuel-burning fireplaces and appliances shall not be located in Group I-2 occupancies.

Exception: Solid fuel-burning fireplaces and appliances shall not be prohibited in Group I-2 nursing homes provided that they are not located in smoke compartments that contain patient sleeping rooms.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

The AHC is proposing a revision to address some of the oversights in the I-Codes of long-standing and operational requirements for hospitals and healthcare facilities that has not been specifically addressed. The requirements being proposed in this code change have been long-standing provisions of the construction and operational requirements for healthcare facilities.

Justification: The language proposed in the IFGC prescribes the limitations and conditions to provide the necessary safety and limitations of hazards found within the healthcare environments to the fire and ignition sources inherent to all fireplaces and gas-fired appliances. Combustion air is restricted from being drawn from a healthcare environment for more than the last decade. It is standard practice and operational procedure to control the ignition sources in these occupancies that can contain combustible, flammable (and sometimes even explosive) material. Fire risks need to be limited to the maximum extent feasible and specific requirements for these facilities are not currently or completely addressed in the I-Codes. The physical separation of the combustion chambers of fireplaces and gas-fired equipment is required to separate and provide a barrier between the ignition sources and the environmental air within healthcare occupancies. All combustion air is required to be taken directly from the exterior of the building with one exception that is already provided for in IFGC Section 303.3.

The solid fuel burning fireplaces and appliances (decorative or heating) present open flames that cannot otherwise be controlled or extinguished like similar gas-fired appliances. The attention to and the tending of the open flames from solid fuel burning appliances require the opening any surrounding compartment while the flames and ignition sources are present; thereby, exposing the I-2 environment (within the patient smoke compartment) to the ignition sources. When gas-fired appliances are utilized, the ability to completely control the fuel source and all open flames and ignition sources is possible and does not require exposure to or tending of solid fuel burning materials. The AHC committee is recommending the restriction of solid-fuel burning fireplaces and appliances in the I-2 occupancy.

Future submissions to proposals to the IFC are being drafted to clarify, restrict and limit the ignition source hazards in healthcare occupancies that will reference these requirements being proposed in the IBC, IMC AND IFGC. The code sections that address the installation of fuel gas-fire fireplaces and appliances will also provide alternative means for compliance for existing facilities. Given the hazards present with these appliances in the I-2 Occupancies, the proposed IFC requirements will be 'retro-active' requirements for healthcare occupancies (I-2); please note, these are not new requirements for the I-2 Occupancy facilities but are needed in the I-Codes for coordination of the long-standing provision of the construction and operational requirements for healthcare facilities.

Cost Impact: No increase to the cost of construction for these facilities is associated with these code changes. This change is consistent with existing federal certification requirements.

303.3.1-FG-Williams-Adhoc

Public Hearing Results

**PART II – IMC
Committee Action:**

Disapproved

Committee Reason: Disapproval is consistent with the action taken on Part I. The referenced Section 303.3.1 would not exist

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care, requests Approval as Submitted.

Commenter's Reason: The addition of these code requirements into the I-Code are critical to limit fuel gas burning and restrict solid fuel gas burning decorative fire places and equipment in I-2 institutional occupancies. These code change proposals are being put forward by the Adhoc healthcare committee and have been coordinated with the ICC CTC-Care committee; industry representatives on our ahc spoke unanimously that the safety and fire hazards associated with these devices in a healthcare occupancy are a serious hazard and request that the code officials vote to overturn the committee decision.

The committee discussions during the initial action hearings and the report of hearings indicates that the reasons that the committee denied this proposals are the reasons that we are requesting approval as submitted. Unfortunately, our committee members were not in the room to speak to the committee and to clarify that we are requesting limitations and restrictions, not the allowance for these elements in the I-2 occupancy healthcare environments.

Please overturn the committee decision and support approval as submitted for these necessary code requirements and provisions.

The language proposed in the IFGC prescribes the limitations and conditions to provide the necessary safety and limitations of hazards found within the healthcare environments to the fire and ignition sources inherent to all fireplaces and gas-fired appliances. Combustion air is restricted from being drawn from a healthcare environment for more than the last decade. It is standard practice and operational procedure to control the ignition sources in these occupancies that can contain combustible, flammable (and sometimes even explosive) material. Fire risks need to be limited to the maximum extent feasible and specific requirements for these facilities are not currently or completely addressed in the I-Codes. The physical separation of the combustion chambers of fireplaces and gas-fired equipment is required to separate and provide a barrier between the ignition sources and the environmental air within healthcare occupancies. All combustion air is required to be taken directly from the exterior of the building with one exception that is already provided for in IFGC Section 303.3.

The solid fuel burning fireplaces and appliances (decorative or heating) present open flames that cannot otherwise be controlled or extinguished like similar gas-fired appliances. The attention to and the tending of the open flames from solid fuel burning appliances require the opening any surrounding compartment while the flames and ignition sources are present; thereby, exposing the I-2 environment (within the patient smoke compartment) to the ignition sources. When gas-fired appliances are utilized, the ability to completely control the fuel source and all open flames and ignition sources is possible and does not require exposure to or tending of solid fuel burning materials. The AHC committee is recommending the restriction of solid-fuel burning fireplaces and appliances in the I-2 occupancy.

Future submissions to proposals to the IFC are being drafted to clarify, restrict and limit the ignition source hazards in healthcare occupancies that will reference these requirements being proposed in the IBC, IMC AND IFGC. The code sections that address the installation of fuel gas-fire fireplaces and appliances will also provide alternative means for compliance for existing facilities. Given the hazards present with these appliances in the I-2 Occupancies, the proposed IFC requirements will be 'retro-active' requirements for healthcare occupancies (I-2); please note, these are not new requirements for the I-2 Occupancy facilities but are needed in the I-Codes for coordination of the long-standing provision of the construction and operational requirements for healthcare facilities.

This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup

calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> .

The AHC is proposing a revision to address some of the oversights in the I-Codes of long-standing and operational requirements for hospitals and healthcare facilities that has not been specifically addressed. The requirements being proposed in this code change have been long-standing provisions of the construction and operational requirements for healthcare facilities.

Cost Impact: No increase to the cost of construction for these facilities is associated with these code changes. This change is consistent with existing federal certification requirements.

Public Comment 2:

Wade Rudolph, CBET, CHF, Sacred Heart Hospital, representing Wisconsin Healthcare Engineers Association Codes & Standards Committee, requests Approval as Submitted.

Commenter's Reason: The proposal as submitted by John Williams, CBO, Chair, ICC Ad Hoc Committee on Healthcare should be accepted.

The ICC IFGC committee logic is invalid as the proposal specifically limits all fireplaces to be vented to the outdoors so an unvented system would not be allowed. The IMC committee did not provide a valid reason for rejection other than refer to the IFGC committee which had flawed conclusions as a basis for rejection.

This proposal does have merit in providing great guidance for facilities that would like to make our healthcare institutions not look and feel so "industrial".

I am submitting this request on behalf of the Wisconsin Healthcare Engineers Association Codes & Standards committee representing over 700 members in the State of Wisconsin.

Thank you for your time and consideration of my comments.

FG3-12, Part II

Final Action: AS AM AMPC____ D

FG5-12
307.6

Proposed Change as Submitted

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

Add new text as follows:

307.6 Condensate pumps. Condensate pumps located in uninhabitable spaces, such as attics and crawl spaces, shall be connected to the appliance or equipment served such that when the pump fails, the appliance or equipment will be prevented from operating. Pumps shall be installed in accordance with the manufacturers' installation instructions.

Reason: Pumps that are not connected in this fashion will permit the appliances to keep operating, spilling waste water where ever the appliance is located. When this condition continues over time, it could result in damage to building components or other property. This overflow condition may result in mold issues among other things. Most pump manufacturers already have this feature incorporated into the pump but the code does not require it to be connected. Damage as a result of not connecting this feature could prove to be very costly. This is not as much of a concern when appliances are readily accessible to occupants where leakage may be noticed in a timely manner.

Cost Impact: None

307.6 (NEW)-FG-MCMANN

Public Hearing Results

Committee Action:

Approved as Modified

Modify proposal as follows:

307.6 Condensate pumps. Condensate pumps located in uninhabitable spaces, such as attics and crawl spaces, shall be connected to the appliance or equipment served such that when the pump fails, the appliance or equipment will be prevented from operating. Pumps shall be installed in accordance with the manufacturers' installation instructions.

Committee Reason: The code does not address condensate pumps and needs the coverage. The modification makes the text apply to all locations and allows the manufacturer's instructions to address the proper appliance and equipment connections.

Assembly Action:

Approved as Submitted

Individual Consideration Agenda

This code change proposal is on the agenda for individual consideration because the proposal received a successful assembly action of Approved as Submitted.

FG5-12

Final Action:

AS

AM

AMPC____

D

FG8-12
401.9

Proposed Change as Submitted

Proponent: James Ranfone, American Gas Association (jranfon@aga.org)

Revise as follows:

401.9 Identification. Each length of pipe and tubing and each pipe fitting, utilized in a fuel gas system, shall bear the identification of the manufacturer.

Exception: The manufacturer identification for fittings and pipe nipples shall be on each piece or shall be printed on the fitting or nipple packaging or provided documentation.

Reason: The exception would allow identification of fittings to be provided on or with the packaging. Some piping fittings, short nipples for example, do not have the physical room for a manufacturers mark.

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

401.9-FG-RANFONE

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Not all fittings can be marked at the factory and this text offers an alternative. Pipe nipples cut in the field could be prohibited without the proposed exception. Pipe nipples are cut from code complying pipe.

Assembly Action:

Disapproved

Individual Consideration Agenda

This code change proposal is on the agenda for individual consideration because the proposal received a successful assembly action of Disapproved.

FG8-12

Final Action:

AS

AM

AMPC ____

D

FG11-12

403.10.1, 403.10.2, 403.10.3

Proposed Change as Submitted

Proponent: Pennie L. Feehan, Pennie L. Feehan Consulting, representing Copper Development Association (penniefeehan@me.com)

Revise as follows:

~~**403.10.1 Pipe joints.** Pipe joints shall be threaded, flanged, brazed or welded. Where nonferrous pipe is brazed, the brazing materials shall have a melting point in excess of 1,000°F (538°C). Brazing alloys shall not contain more than 0.05 percent phosphorus.~~

403.10.1 Pipe and tubing joints. Joints shall be threaded, flanged, brazed or welded. Brazed joints between copper pipe or tubing and fittings shall be made with brazing alloys having a liquid temperature above 1,000°F (538°C). All joints surfaces to be brazed shall be cleaned. An *approved* brazing flux shall be applied to the joint surfaces where required by manufacturer's recommendation. The joints shall be brazed with a brazing filler metal conforming to AWS A5.8. Brazing filler metal and shall be applied at the point where the pipe or tubing enters the socket of the fitting.

~~**403.10.2 Pressed Tubing joints.** Tubing joints shall be made with approved gas tubing fittings, brazed with a material having a melting point in excess of 1,000°F (538°C) or made with Ppress-connect fittings shall comply with ANSI LC-4. The joint shall be pressed using the tool recommended by the fitting manufacturer. Brazing alloys shall not contain more than 0.05 percent phosphorus.~~

403.10.3 Flared joints. Flared joints shall be used only in systems constructed from nonferrous pipe and tubing where experience or tests have demonstrated that the joint is suitable for the conditions and where provisions are made in the design to prevent separation of the joints. Flared joints shall be made by a tool designed for that operation.

Reason: The above proposal combined two similar code sections and provides important language from the standards to aid the end user.

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

403.10.1-FG-FEEHAN

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The condensing of the text has changed the intent. Brazing of copper is no longer mandated by the revised text. Tubing is included, but cannot be threaded. The installation details are not enforceable.

Assembly Action:

None

FG13 – 12

404.6

Proposed Change as Submitted

Proponent: James Ranfone, American Gas Association (jranfon@aga.org)

Revise as follows:

~~**404.6 Underground penetrations prohibited. Piping through Foundation Wall.** Gas piping shall not penetrate building foundation walls at any point below grade. Gas piping shall enter and exit a building at a point above grade and the annular space between the pipe and the wall shall be sealed. Underground piping installed through the outer foundation or basement wall of a building, shall be encased in a protective sleeve or protected by an approved device or method. The space between the gas piping and the sleeve and between the sleeve and the wall shall be sealed to prevent entry of gas and water.~~

Reason: A change adopted into the 2012 edition would prohibit gas piping from penetrating a foundation wall below grade. This change was adopted without evidence that such penetrations have resulted in a safety concern. Below grade penetrations have long been permitted and have proven to be safe installation method. The revised language would reinstate this allowance.

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

404.6-FG-RANFONE

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: The proposed text gives designers the option to enter/exit above or below ground. For existing homes, it is burdensome to require gas piping to enter the building above ground first before entering the basement.

Assembly Action:

Disapproved

Individual Consideration Agenda

This code change proposal is on the agenda for individual consideration because the proposal received a successful assembly action of Disapproved and a public comment was submitted.

Public Comment:

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

Modify the proposal as follows:

~~**404.6 Piping through Foundation Walls.** Underground piping installed through the outer foundation or basement wall of a building, shall be encased in a protective sleeve or protected by an approved device or method. The space between the gas piping and the sleeve and between the sleeve and the wall shall be sealed to prevent entry of gas and water. Gas piping shall not penetrate building foundation walls at any point under ground. Buried gas piping shall enter and exit a building at a point above grade and the annular space between the pipe and the wall shall be sealed.~~

Commenter's Reason: Comments were brought forth in Dallas asserting that piping in meter vaults must rise to a point "above grade" before penetrating a foundation wall. This is an incorrect interpretation of the intent of the code. This scenario is permitted because the piping in this case is not buried and poses no danger due to the fact the piping can vent to the atmosphere where as buried piping cannot. The public comment clears up this misconception by replacing the words "below grade" with the word "underground".

There have been many cases throughout the country where explosions have occurred as a result of a gas leak that originates underground and made its way into the building. One of the reasons this occurs is because natural gas or propane tends to follow

the pipe in its ditch due to less resistance surrounding the pipe. Piping penetrating foundation walls under ground provides a path for gas to follow. The safety of occupants should not be left up to how well a bead of caulking has been applied. Plastic piping is also subject to the same scenario, especially when the 8-inch burial depth is taken into consideration. Plastic will not hold up to common tools such as shovels, spades, picks and roto-tillers. Also consider expansive soils and the potential effect it can have on the piping. The heaving soil will have a devastating effect on a caulked sleeve. It's not uncommon to have a gas line snapped off completely at the foundation wall due to the overwhelming force of expansive soil. Permitting the pipe to enter the building only above ground will eliminate the likelihood that gas would enter the building. Life, limb, property and the potential threat of explosion should not be determined by the integrity of a sealed joint alone. Depending how deep the ditch is, the weight of the back-fill alone could be significant enough to have an impact on a caulked joint. One should also consider that the joint could deteriorate over time.

The membership approved this in the last two editions of the code and we urge the membership to continue to support this life safety effort.

FG13-12

Final Action:

AS

AM

AMPC ____

D

FG15-12

404.7, 404.7.1 (New), 404.7.2 (New)

Proposed Change as Submitted

404.7 Protection against physical damage. In concealed locations where *piping*, other than black or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1-1/2 inches (38 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. ~~Protective steel~~ Such shield plates shall have ~~ing a minimum~~ a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notched or bored and shall extend not less than 4 inches (102 mm) above sole plates, and below top plates and to each side of a stud, joist, rafter or similar member.

404.7.1 Formed steel framing members. Piping, other than black or galvanized steel, shall not be installed within the channel of a formed steel framing member except where the piping is not less than 1-1/2 inches from the backside of any fastening face of the member.

404.7.2 Piping installed parallel to framing members. In concealed locations where piping, other than black or galvanized steel, is installed parallel to studs, joists, rafters or similar members less than 1-1/2 inches (38 mm) from the nearest edge of the member, such pipe shall be protected along its length by steel shield plates that comply with the requirements of Section 404.7.

Reason: Like the IPC, Section 404.7 does not address pipe or tubing run down the side of a stud or inside of a "C" channel metal stud or rafter. Such installations are subject to penetrations but the code addresses only holes and notches for pipe and tubing that runs perpendicular to the framing member. The NEC treats wiring that runs parallel to framing members the same as wiring that runs perpendicular. The IMC, IFGC and IPC need to catch up. If the sheeting material fasteners miss a framing member, they can easily penetrate piping which is why the code requires the protection shield to extend 4 inches on both sides. Placing piping parallel to a member, either on the side or within a channel, exposes the piping to penetration, yet current code addresses only perpendicular penetrations.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes.

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

404.7-FG-STRAUSBAUGH.PMGCAC

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The requirements for formed steel members are overly restrictive. The measuring points are not consistent in Sections 404.7 and 404.7.1.

Assembly Action:

None

FG16-12

404.8.1, 404.8.2, 404.14.1, 404.14.2

Proposed Change as Submitted

Proponent: Shawn Strausbaugh, Arlington County, VA, representing PMG CAC

Revise as follows:

~~**404.8.1 Conduit with one end terminating outdoors.** The conduit shall extend into an occupiable portion of the building and, at the point where the conduit terminates in the building, the space between the conduit and the gas piping shall be sealed to prevent the possible entrance of any gas leakage. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor. If the end sealing is capable of withstanding the full pressure of the gas pipe, the conduit shall be designed for the same pressure as the pipe. Such conduit shall extend not less than 4 inches (102 mm) outside the building, shall be vented above grade to the outdoors and shall be installed so as prevent the entrance of water and insects.~~

~~**404.8.2 Conduit with both ends terminating indoors.** Where the conduit originates and terminates within the same building, the conduit shall originate and terminate in an accessible portion of the building and shall not be sealed. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.~~

404.8 Piping in solid floors. Piping in solid floors shall be laid in channels in the floor and covered in a manner that will allow access to the piping with a minimum amount of damage to the building. Where such piping is subject to exposure to excessive moisture or corrosive substances, the piping shall be protected in an approved manner. As an alternative to installation in channels, the piping shall be installed in a conduit of Schedule 40 steel, wrought iron, PVC or ABS pipe in accordance with Section 404.8.1 or 404.8.2. Where the conduit originates and terminates within the same building, the conduit shall originate and terminate in an accessible portion of the building and shall not be sealed. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.

~~**404.14.1 Conduit with one end terminating outdoors.** The conduit shall extend into an occupiable portion of the building and, at the point where the conduit terminates in the building, the space between the conduit and the gas piping shall be sealed to prevent the possible entrance of any gas leakage. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor. Where the end sealing is capable of withstanding the full pressure of the gas pipe, the conduit shall be designed for the same pressure as the pipe. Such conduit shall extend not less than 4 inches (102 mm) outside of the building, shall be vented above grade to the outdoors and shall be installed so as to prevent the entrance of water and insects.~~

~~**404.14.2 Conduit with both ends terminating indoors.** Where the conduit originates and terminates within the same building, the conduit shall originate and terminate in an accessible portion of the building and shall not be sealed. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.~~

404.14 Piping underground beneath buildings. Piping installed underground beneath buildings is prohibited except where the piping is encased in a conduit of wrought iron, plastic pipe, steel pipe or other approved conduit material designed to withstand the superimposed loads. The conduit shall be protected from corrosion in accordance with Section 404.11 and shall be installed in accordance with Section 404.14.1 or 404.14.2. Where the conduit originates and terminates within the same building, the conduit shall originate and terminate in an accessible portion of the building and shall not be sealed. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.

Reason: Sections 404.8.1 and 404.14.1 are trumped by Section 404.6 and although they would still apply to a very limited type of installation, they give the appearance of a direct conflict with Section 404.6 and have caused interpretation issues. There is no actual conflict, but the main application of these sections was for bringing gas piping into or out of a building below grade which is now expressly prohibited by Section 404.6. These sections would now only apply to gas piping running from point A to point B within the building. It is extremely unlikely that anyone would use these sections considering that Sections 404.8.2 and 404.14.2 provide a much simpler option that does not require a vent to the outdoors. Sections 404.8.1 and 404.14.1 should be deleted to avoid confusion and because they have almost no practical application value. The utility of these sections has been eliminated by the Section 404.6.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes.

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

404.8.1-FG-STRAUSBAUGH.PMGCAC

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal creates confusion. Sections 404.6 and 404.8.1 are not in conflict since the provision of Section 404.8.1 is still allowed.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Shawn Strausbaugh, Arlington County, VA, representing International Code Council Plumbing, Mechanical, and Fuel Gas Code Action Committee (ICC PMG CAC), requests Approval as Submitted.

Commenter's Reason: The committee disapproved this proposal because they felt that it created confusion and because Section 404.6 is not in conflict with Sections 404.8.1 and 404.14.1. The purpose of the original proposal was to eliminate the confusion that already exists over these sections. Current Sections 404.8.1 and 404.14.1, describe a method for running gas piping into or out of a building below grade or within a slab on grade. These methods confuse code users by describing a practice that is prohibited by Section 404.6. To be clear, the methods in these deleted sections are not prohibited where piping is run between points inside of a building, as correctly stated by the committee. However, these methods were written to accommodate piping run into and out of the building and suggest that this practice is still OK, notwithstanding that Section 404.6 prohibits such runs of piping. If one compares Section 404.14.1 to Section 404.14.2, it is obvious that one method is simple and easy to install and the other method is difficult to install and would never be chosen, so why keep it in the code where it will clash with Section 404.6? This proposal does not cause confusion, it relieves it. Also, the consolidation of Sections 404.8.2 and 404.14.2 with the parent sections simplifies the code.

FG16-12

Final Action:

AS

AM

AMPC_____

D

FG17-12
404.14

Proposed Change as Submitted

Proponent: James Ranfone, American Gas Association (jranfon@aga.org)

Revise as follows:

404.14 Piping underground beneath buildings. Piping installed underground beneath buildings is prohibited except where the piping is encased in a conduit of wrought iron, plastic pipe, steel pipe or other approved conduit material designed to withstand the superimposed loads or is encased in a listed encasement system. The conduit shall be protected from corrosion in accordance with Section 404.11 and shall be installed in accordance with Section 404.14.1 or 404.14.2.

Reason: To permit the use of an encasement system that is listed. This change has been adopted into the 2012 National Fuel Gas Code.

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

404.14-FG-RANFONE

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Approval is based upon the proponent's published reason.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Richard Grace, Fairfax County, Virginia, representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA) and the Virginia Building Code and Officials Association (VBCOA), requests Disapproval.

Commenter's Reason: The addition to this code section appears to be somewhat premature. What standard shall an encasement system be listed to? There does not appear to be any specific standard for this system and installation. The current standards referenced in the IFGC do not apply to this system. If the encasement system were to be listed to ASTM A674, this code section would allow its use beneath buildings.

FG17-12

Final Action:

AS

AM

AMPC___

D

FG21-12

409.5

Proposed Change as Submitted

Proponent: Jean Steckler, representing TECO Americas (jeans@aa-fs.com)

Revise as follows:

409.5 Appliance shutoff valve. Each *appliance* shall be provided with a shutoff valve in accordance with Section 409.5.1, 409.5.2 or 409.5.3. Each gas appliance shall be equipped with a passive thermal shut-off device that will automatically stop the flow of gas to the appliance in the event of a fire. The thermal gas shut-off device shall not be a substitute for the manual shut-off valve required by this section. A combination type valve that serves as both a shutoff valve and a thermal shutoff device satisfies the requirements of this section. The thermal shut-off device shall not require electricity or batteries to stop the flow of gas.

Reason: According to the National Fire Protection Association (NFPA), U.S. fire departments face 2,110 home fires each year where natural gas is the first material ignited, and 1,170 home fires a year where LP-gas is involved with the start of a fire. Most home gas fires originate in the kitchen at the stove or gas range.

Building occupants have a false sense of security regarding gas appliances. Occupants assume they have the protection of automatic thermal gas shut-offs, when in reality the manual valves have to be physically shut off to prevent gas release. An automatic thermal shut-off provides passive gas and fire safety, and does not depend on a facility manager to locate and manipulate a manual valve. Automatic thermal gas shutoffs stop the gas from feeding the fire during the time it takes for first responders to reach the facility.

When manual gas shut-off valves are combined with passive, automatic thermal shut-offs, occupants and first responders greatly reduce risk to their lives. And they are much better protected from personal harm and property damage. Automatic thermal gas shutoffs greatly reduce the amount of gas released to the atmosphere when fire occurs. Uncontrolled gas leaks pose a significant hazard to firefighters, emergency responders, and the public.

According to the National Fire Incident Reporting System (NFIRS) database, a system established by the National Fire Data Center of the United States Fire Administration (USFA) to document and develop uniform data reporting when gathering and analyzing information on fires across the U.S., there have been 36,577 fires in the 49 states and the District of Columbia where gas was the material first ignited resulting in an uncontrolled or self-perpetuating fire in the five year period between 2005-2009. Automatic thermal gas shutoffs mitigate consequences of fires:

- Thermal gas shutoffs stop the flow of gas instantaneously when the fire temperature reaches 212°F
- When the curb valve is too close to a burning building to be safely operated, or it is non-existent or inoperable
- Thermal gas shutoffs are intended to shutoff the flow of gas when fire occurs near the gas line
- Automatic thermal gas shutoffs assist in the prevention of risk to fire personnel and first responders when gas is released and acts as an accelerant

The primary incident consequences that would be reduced are deaths, injuries, and property damage. Additional benefits would be an expected reduction in the severity of fires, explosions, and evacuation occurring at incidents, and the quantity of gas lost during incidents.

Cost Impact: Minimal Cost Impact.

409.5-FG-STECKLER

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: There is no standard to which these devices can be listed. The possible implications of requiring these devices are not known.

Assembly Action:

None

FG22-12
409.5.3

Proposed Change as Submitted

Proponent: Brent Ursenbach, Salt Lake County, representing Utah Chapter ICC (bursenbach@slco.org)

Revise as follows:

409.5.3 Located at manifold. Where the *appliance* shutoff valve is installed at a manifold, such shutoff valve shall be located within 50' (15240mm) of the *appliance* served, shall be located on the same building level as the *appliance* and shall be readily accessible and permanently identified. The *pipng* from the manifold to within 6 feet (1829 mm) of the *appliance* shall be designed, sized and installed in accordance with 401 through 408.

Reason: It is common to have a gas manifold located in a basement level furnace room or mechanical room, with gas appliances located on other levels within a building. It is poses a safety hazard to not have a gas shutoff reasonable close to the gas appliance. Installing and servicing technicians performing start-up and testing procedures on gas appliances may need to turn the gas on and off multiple times as they test inlet and outlet (manifold) pressures. It creates a hazardous condition to not have a means to immediately stop the gas flow while performing service on a gas appliance.

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

409.5.3-FG-URSENBACH

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The required valve is for servicing the appliance, not for emergency use. The current text is in the NFGC and allows the valves to be placed at a manifold for convenience. There is no evidence that the current allowance is unsafe. If desired, the installer can provide a valve at the appliance.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Brent Ursenbach, Salt Lake County, representing Utah Chapter ICC, requests Approval as Submitted.

Commenter's Reason: The Committee stated the required shut off valve on a gas appliance is for servicing, not for emergency use. The proponent agrees the main purpose is for servicing the appliance. The issue as discussed in the proposal reason statement is locating the service shut off valve in a remote location, possibly 2 or 3 levels from the appliance, creates a significant hazard to the *servicing* technician. The code does not allow the electrical disconnect for an appliance to be located is a remote location, several levels away from the appliance, as this would create a hazardous condition for the servicing technician. This should not be allowed for the gas shut off valve.

Several misunderstood this proposal in the discussion on the floor in Dallas. This proposal does not require installing manifolds on each level. It simply allows shut-off valves at the manifold to be acceptable for any appliance installed on the same building level, with-in 50'. For appliances on other building levels, there is no requirement or need to place a shut-off valve at the manifold, simply locate one near the appliance on the level the appliance is located.

FG22-12

Final Action:

AS

AM

AMPC____

D

FG24-12

411.1, 411.1.1, 411.1.4

Proposed Change as Submitted

Proponent: James Ranfone, American Gas Association (jranfon@aga.org)

Revise as follows:

411.1 Connecting appliances. Except as required by Section 411.1.1, appliances shall be connected to the piping system by one of the following:

1. Rigid metallic pipe and fittings.
2. Corrugated stainless steel tubing (CSST) where installed in accordance with the manufacturer's instructions.
3. Semirigid metallic tubing and metallic fittings. Lengths shall not exceed 6 feet (1829 mm) and shall be located entirely in the same room as the appliance. Semirigid metallic tubing shall not enter a motor-operated appliance through an unprotected knockout opening.
4. Listed and labeled appliance connectors in compliance with ANSI Z21.24 and installed in accordance with the manufacturer's instructions and located entirely in the same room as the appliance.
5. Listed and labeled quick-disconnect devices used in conjunction with listed and labeled appliance connectors.
6. Listed and labeled convenience outlets used in conjunction with listed and labeled appliance connectors.
7. Listed and labeled outdoor appliance connectors in compliance with ANSI Z21.75/CSA 6.27 and installed in accordance with the manufacturer's instructions.
8. Listed outdoor gas hose connectors in compliance with ANSI Z21.54 used to connect portable outdoor appliances. The gas hose connection shall be made only in the outdoor area where the appliance is to be used, and shall be to the gas piping supply at an appliance shutoff valve, a listed quick-disconnect device, or listed gas convenience outlet.

411.1.1 Commercial cooking appliances. Commercial cooking appliances installed on casters and appliances that are moved for cleaning and sanitation purposes shall be connected to the piping system with an appliance connector listed as complying with ANSI Z21.69 ~~or in accordance with Item 1 or 3 of Section 411.1.~~ The commercial cooking appliance connector installation shall be configured in accordance with the manufacturer's installation instructions. Movement of appliances with casters shall be limited by a restraining device installed in accordance with the connector and appliance manufacturer's instructions.

~~**411.1.4 Movable appliances.** Where appliances are equipped with casters or are otherwise subject to periodic movement or relocation for purposes such as routine cleaning and maintenance, such appliances shall be connected to the supply system piping by means of an approved flexible connector designed and labeled for the application. Such flexible connectors shall be installed and protected against physical damage in accordance with the manufacturer's installation instructions.~~

Reason: The proposal accomplishes three changes:

1. 411.1 - Add a requirement that a Z21.54 listed connector be used to connect portable outdoor appliances to the house piping system. Z21.54 connectors are designed for such application.
2. 411.1.1 - Requires the use of a Z21.69 listed connector for all commercial cooking appliances on casters and for appliances that are moved for cleaning purposes. This would change eliminate the use of rigid pipe and semirigid metallic tubing. Z21.69 connectors are designed specifically for such application. The change also adds requirements for the proper installation of the connector and requires the installation of a restraining device to project the connector.
3. 411.1.4 – The requirements in this section are covered by the proposed changes to 411.1.1 and the section is no longer needed.

These revisions are consistent with changes adopted into the 2012 National Fuel Gas Code.

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

411.1-FG-RANFONE

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Approval is based upon the proponent's published reason.

Staff analysis: The standard Z21.54 indicates that it was developed by an ANSI consensus process. In staff's opinion, the standard had no apparent proprietary references and no apparent non-mandatory text.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Shawn Strausbaugh, Arlington County, VA, representing International Code Council Plumbing, Mechanical, and Fuel Gas Code Action Committee (ICC PMG CAC), requests Approval as Modified by this Public Comment.

Modify the proposal as follows:

411.1.4 Movable appliances. Where appliances are equipped with casters or are otherwise subject to periodic movement or relocation for purposes such as routine cleaning and maintenance, such appliances shall be connected to the supply system piping by means of an appliance connector listed as complying with ANSI Z21.69 or by means of item 1 of Section 411.1. Such flexible connectors shall be installed and protected against physical damage in accordance with the manufacturer's instructions.

(Portions of the proposal not shown are unaffected by this public comment.)

Commenter's Reason: Under the original proposal the entire section 411.1.4 was removed. There are movable appliances that are not commercial cooking appliances that would be subject to periodic moving, yet they would not be covered because only cooking appliances are addressed by FG24 text. Under this new proposal, then these movable appliances would be permitted to be connected with one of any items as described in section 411.1 such as semirigid metallic tubing. Soft copper tubing, for example, would be work-hardened and damaged as the result of repeated movement and bending. Most connector listings will not prohibit the connector from being used with a moveable appliance, therefore, other connectors that are not as robust as a Z21.69 connector could end up being used, even though they may not be suitable for such harsh duty. If an appliance is periodically moved, a special connector or rigid pipe connections should be used.

FG24-12

Final Action:

AS

AM

AMPC_____

D

FG29-12
502.7.1 (New)

Proposed Change as Submitted

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

Add new text as follows:

502.7.1 Door swing. Appliance and equipment vent terminals shall be located such that doors cannot swing within 12 inches (305 mm) horizontally of the vent terminal. Door stops or closures shall not be installed to obtain this clearance.

Reason: As indicated in the photo, any gas vent can be subject to damage as a result of a door swing even when the vent has been installed in accordance with the manufacturer's instructions. Most manufacturers do not address proximity to doors on a different plane. Even if the door doesn't come in contact with the vent terminal, the door could be too close to the vent when the appliance is operating and possibly overheating the door causing problems.



Cost Impact: None

502.7.1 (NEW)-FG-MCMANN

Public Hearing Results

Committee Action:

Approved as Submitted

Committee Reason: Approval is based upon the proponent's published reason.

Assembly Action:

None

FG31-12
505.1.1

Proposed Change as Submitted

Proponent: Shawn Strausbaugh, Arlington County, VA, representing PMG CAC

Revise as follows:

505.1.1 Commercial cooking appliances vented by exhaust hoods. Where commercial cooking appliances are vented by means of the Type I or II kitchen exhaust hood system that serves such appliances, the exhaust system shall be fan powered and the appliances shall be interlocked with the exhaust hood system to prevent appliance operation when the exhaust hood system is not operating. The method of interlock between the exhaust hood system and the appliances equipped with standing pilot burner ignition systems shall not cause such pilots to be extinguished. Where a solenoid valve is installed in the gas piping as part of an interlock system, gas piping shall not be installed to bypass such valve. Dampers shall not be installed in the exhaust system.

Exception: An interlock between the cooking appliance(s) and the exhaust hood system shall not be required where heat sensors or other approved methods automatically activate the exhaust hood system when cooking ~~operations occur~~ appliances are operating.

Reason: What about when the appliances are firing to be ready to cook, but no cooking is occurring? The hood system is typically the venting means for the products of combustion generated by the gas-fired appliances. The intent of the code is to make certain that the exhaust system is operating any time that the appliances are firing and this is not necessarily related to when actual cooking is taking place.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes.

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

505.1.1-FG-STRAUSBAUGH.PMGCAC

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposed text could be misinterpreted to apply to appliances that are in the standby mode with only an ignition pilot burning.

Assembly Action:

None

FG32-12

505.1.1

Proposed Change as Submitted

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

Revise as follows:

505.1.1 Commercial cooking appliances vented by exhaust hoods. Where commercial cooking appliances are vented by means of the Type I or II kitchen exhaust hood system that serves such appliances, the exhaust system shall be fan powered and the appliances shall be interlocked with the exhaust hood system to prevent appliance operation when the exhaust hood system is not operating. The method of interlock between the exhaust hood system and the appliances equipped with standing pilot burner ignition systems shall not cause such pilots to be extinguished. Where a solenoid valve is installed in the gas piping as part of an interlock system, gas piping shall not be installed to bypass the solenoid valve and the circuitry for the interlock system shall be arranged to require a manual reset operation so that after power has been interrupted to the valve the valve will not automatically re-open upon restoration of the power supply. ~~Dampers shall not be installed in the exhaust system.~~

Exception: An interlock between the cooking appliance(s) and the exhaust hood system shall not be required where heat sensors or other approved methods automatically activate the exhaust hood system when cooking operations occur

Reason: A realistic scenario exists where in the event of a power failure during normal cooking operations the line stall could walk away from the stove or cook top and not shut off the valves. When the power comes back on gas could flow freely creating a potential disaster. In fact, any time that the hood is powered off for any reason, the kitchen staff could walk away from the appliances without turning off the burners and when the hood is powered again, the appliances could be unattended. Installing a manual reset device will ensure that this could not happen. The last sentence has been stricken as this is an IMC issue and isn't related to the IFGC.

Cost Impact: This may increase cost

505.1.1-FG-MCMANN

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: No evidence was provided to show that such hazardous scenarios have occurred. The proponent has described a hypothetical hazard. The cost of the additional circuit component is a concern.

Assembly Action:

None

FG34-12

618.4, 618.4 (New)

Proposed Change as Submitted

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

Revise as follows:

618.4 Prohibited sources. ~~Outdoor or return air for forced air heating and cooling systems shall not be taken from the following locations:~~

- ~~1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.~~
- ~~2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.~~
- ~~3. A hazardous or insanitary location or a refrigeration machinery room as defined in the International Mechanical Code.~~
- ~~4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Section 618.2, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.~~

Exception: ~~The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.~~

- ~~5. A room or space containing an appliance where such a room or space serves as the sole source of return air.~~

Exception: This shall not apply where:

- ~~1. The appliance is a direct vent appliance or an appliance not requiring a vent in accordance with Section 501.8.~~
- ~~2. The room or space complies with the following requirements:
 - ~~2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6L/W) of combined input rating of all fuel-burning appliances therein.~~
 - ~~2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.~~
 - ~~2.3. Return air inlets shall not be located within 10 feet (3048 mm) of a draft hood in the same room or space or the combustion chamber of any atmospheric burner appliance in the same room or space.~~~~
- ~~3. Rooms or spaces containing solid fuel-burning appliances, provided that return air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.~~
- ~~6. A closet, bathroom, toilet room, kitchen, garage, boiler room, furnace room or unconditioned attic.~~

Exceptions:

- 1. ~~Where return air intakes are located not less than 10 feet (3048 mm) from cooking appliances and serve only the kitchen area, taking return air from a kitchen area shall not be prohibited.~~
- 2. ~~Dedicated forced air systems serving only a garage shall not be prohibited from obtaining return air from the garage.~~
- 7. ~~A crawl space by means of direct connection to the return side of a forced-air system. Transfer openings in the crawl space enclosure shall not be prohibited.~~

618.4 Supply, Return and outdoor air. Supply, return and outdoor air installations shall be installed in accordance with the *International Mechanical Code*.

Reason: The purview of the Fuel Gas Code presides over the gas fired appliance. How the appliance is ducted and all that surrounds it should be up to the other codes. The Fuel Gas code doesn't attempt to tell the user how to electrically wire it, so why should it tell the user how to duct it.

Cost Impact: None

618.5 #2-FG-MCMANN

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The text proposed for deletion should stay in the code so as to eliminate the need to refer to the IMC.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Guy McMann, Jefferson County, Colorado, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO), requests Approval as Submitted.

Commenter's Reason: This was approved as submitted by the Mechanical Code Committee. FG-35 which was approved as submitted, has several problems and this proposal will bring consistency to the two codes.

FG34-12

Final Action:

AS

AM

AMPC ____

D

FG35-12

618.4, 618.5 (New), 618.6 (New)

Proposed Change as Submitted

Proponent: James Ranfone, American Gas Association (jranfon@aga.org)

Delete and substitute as follows:

618.4 Prohibited sources. Outdoor or return air for forced air heating and cooling systems shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in the International Mechanical Code.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Section 618.2, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A room or space containing an appliance where such a room or space serves as the sole source of return air.

Exception: This shall not apply where:

1. The appliance is a direct vent appliance or an appliance not requiring a vent in accordance with Section 501.8.
2. The room or space complies with the following requirements:
 - 2.1. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6L/W) of combined input rating of all fuel-burning appliances therein.
 - 2.2. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - 2.3. Return air inlets shall not be located within 10 feet (3048 mm) of a draft hood in the same room or space or the combustion chamber of any atmospheric burner appliance in the same room or space.
3. Rooms or spaces containing solid fuel-burning appliances, provided that return air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.
6. A closet, bathroom, toilet room, kitchen, garage, boiler room, furnace room or unconditioned attic.

Exceptions:

1. Where return air intakes are located not less than 10 feet (3048 mm) from cooking appliances and serve only the kitchen area, taking return air from a kitchen area shall not be prohibited.

- ~~2. Dedicated forced air systems serving only a garage shall not be prohibited from obtaining return air from the garage.~~
7. A crawl space by means of direct connection to the return side of a forced-air system. Transfer openings in the crawl space enclosure shall not be prohibited.

618.5 Outdoor air openings: Outdoor air intake openings for a forced-air heating system shall be located in accordance with all of the following:

1. Outdoor air openings located within 10 feet horizontally of an appliance vent outlet, a plumbing vent outlet, or an exhaust fan discharge outlet shall be not less than 3 feet below such outlets.
2. They shall be not less than 10 feet (3048 mm) above the surface of any adjoining sidewalk, street, alley or driveway.
3. They shall be an approved distance from a storage location where the stored materials emit odors, fumes, hazardous or flammable vapors.

618.6 Indoor return air openings: Indoor return air intake openings for a forced-air heating system shall be in accordance with all of the following:

1. Shall be located in rooms or spaces where the supply air rate discharged back into the room or space is equal to or greater than the return air rate taken from the space.
2. Shall be located a minimum of 10 feet (3048 mm) from a cooking appliance or the firebox or draft hood of a natural draft vented fuel-burning appliance.
3. Where located in a closet, bathroom, toilet room, kitchen, garage, boiler room, furnace room or attic. Return air is permitted to be taken from such spaces where they are served by a dedicated force-air heating system and the supply air rate discharged back into the room or space is equal to or greater than the return air rate taken from the space.
4. Return air intake openings shall not be located in the following locations:
 - 4.1. Where stored materials emit odors, fumes, hazardous or flammable vapors
 - 4.2. A refrigeration machinery room as defined in the *International Mechanical Code*

Reason: The proposal seeks to clarify the provisions as follows:

1. Reorganize code requirements by outdoor and indoor air opening locations.
2. State provisions in a positive manner and minimize the use of exceptions.
3. Eliminate unenforceable language or language open to wide interpretation – for example “insanitary location”, “objectionable odors”
4. Simplify the requirements regarding indoor return air openings
5. Allow return air openings a wider variety of spaces where a dedicated forced-air system is installed. Currently coverage only permits kitchen installations.
6. Eliminate the 25% requirement that has no technical basis. The revised text such spaces to be supplied with an equal or greater rate of supply air. (New 618.6 #1)

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

618.5-FG-RANFONE

Public Hearing Results

This code change was contained in the Updates to the 2012 Proposed Changes posted on the ICC website. Please go to <http://www.iccsafe.org/cs/codes/Pages/12-13-ProposedChanges-A.aspx>

Committee Action:

Approved as Submitted

Committee Reason: Approval is based upon the proponent’s published reason and also on the action taken on FG33-12 and FG34-12.

This proposal replaces the proposal that was originally published with the IFGC proposals.

618.4 Prohibited sources. (All of current section 618.4 is deleted)

Add new text as follows:

618.5 Outdoor air openings: Outdoor air openings for a forced-air heating system shall be located in accordance with all of the following:

1. Not less than 3 feet below an appliance vent outlet, a plumbing vent outlet, or exhaust fan discharge outlet, located within 10 feet (3048 mm).
2. Not less than 10 feet (3048 mm) above the surface of any adjoining sidewalk, street, alley or driveway.

Exception. Openings located 25 ft (7620 mm) above such surfaces.

3. An approved distance from a storage location where the stored materials emit odors, fumes, hazardous or flammable vapors.

618.6 Indoor return air openings: Indoor return air openings for a forced-air heating system shall be in accordance with all of the following:

1. Shall be located in rooms or spaces where the supply air rate discharged back into the room or space is equal to or greater than the return air rate taken from the space. Adjoining rooms and spaces connected by a permanent opening having an area sized in accordance with Section 618.2 shall be considered as a single room or space.
2. Shall be located a minimum of 10 feet (3048 mm) from a cooking appliance or the firebox or draft hood of a natural draft vented fuel-burning appliance.
3. Return air shall not be taken from a closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room or unconditioned attic. Return air is permitted to be taken from such spaces where served by a dedicated forced-air heating system and the supply air rate discharged back into the room or space is equal to or greater than the return air rate taken from the space.
4. Return air intake openings shall not be located in the following locations:
 - 4.1. Where stored materials emit odors, fumes, hazardous or flammable vapors
 - 4.2. A refrigeration machinery room as defined in the *International Mechanical Code*

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Richard Grace, Fairfax County, Virginia, representing the Virginia Plumbing and Mechanical Inspectors Association (VPMIA) and the Virginia Building Code and Officials Association (VBCOA) requests Disapproval.

Commenter's Reason: There is one simple flaw to this change, it does not include forced air cooling systems. This section would not apply to a space or spaces provided with a baseboard heating system and a forced air cooling system, nor would it apply to a gas fired forced air system when in the cooling mode. Additionally, with the passage of M167-12, there are now two differing requirements for forced air heating and cooling systems based on their fuel (IMC vs. IFGC) type. It is not clear as to why there should be a difference in the outdoor and return air opening locations based on the fuel type, and the proponent did not provide such clarification.

Public Comment 2:

Guy McMann, Jefferson County, Colorado, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO), requests Disapproval.

Commenter's Reason: This proposal has several issues that are inconsistent with language that was approved by the Mechanical Code Committee.

- 618.5 # 2 is still inconsistent with similar language in the mechanical code.
- 618.5 # 3 permits return air to be taken from storage areas containing foul or hazardous fumes if the code official "thinks" its ok. This will only cause confusion and inconsistent enforcement as it's too subjective.
- 618.6 item 3 permits return air from bathrooms; closets and toilet rooms provided they have dedicated systems. This isn't ever going to happen. Return air from a toilet room or bathroom is ill-advised under any condition.

- It's not realistic to think that there will be a dedicated system for boiler rooms, furnace rooms and the like although such a scenario does exist for garages.

FG35-12

Final Action:

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FG36-12

621.2, 621.4

Proposed Change as Submitted

Proponent: Craig Conner, Building Quality, representing self

Revise as follows:

621.2 Prohibited use. ~~One or more unvented room heaters shall not be used as the sole source of comfort heating in a dwelling unit.~~

621.4 Prohibited locations. Unvented room heaters shall not be installed within occupancies in Groups A, E and I. Unvented room heaters shall not be installed within dwelling units. The location of unvented room heaters shall also comply with Section 303.3.

Reason: Unvented room heaters should not be allowed in the dwelling units of new, tight, energy-efficient buildings. A new study by the Building Research Council at the University of Illinois measured the air quality produced by unvented heaters as used in real residences. The study demonstrated problems with the indoor air quality in residences with unvented heaters. The study also calls into question the extent of the protection provided by one of the industry's key safety devices, the oxygen depletion sensor (ODS).

A study of 30 homes with unvented gas fireplaces was recently published in the Indoor Air journal¹. The study monitored the combustion products in the residences. Of the greatest concern was the measured nitrogen dioxide levels (NO₂). There are 4 relevant guidelines/standards for NO₂. About 40% of the residences exceeded both the most lenient ANSI Standard Z21.11.2 value of 300 ppb and the Health Canada guideline of 250 ppb. About 80% exceeded both the US National Ambient Air Quality Standards/EPA standard of 100 ppb and the World Health Organization (WHO) guideline of 110 ppb.² A whopping 40% were at least triple the US standard. The study concluded

"Levels of NO₂ that exceeded health-based guidelines occurred regardless of usage patterns, so should be considered inherent to the fireplace performance."

Twenty percent of the heaters exceeded the carbon monoxide (CO) safety level, as established by the US National Ambient Air Quality Standards/EPA standard of 100 ppm (8 hour period).

Unvented heater proponents routinely argue that unvented heaters with oxygen depletion sensors (ODS) have never been shown to have significant health or safety issues. The unvented trade association says "*Vent-free appliances feature an automatic safety shut-off device (Oxygen Detection System or ODS). The ODS turns off the gas in case of a malfunction.*" It is perhaps stating the obvious, but an oxygen depletion sensor monitors oxygen, not carbon monoxide or nitrogen dioxide. Clearly the ODS sensor allowed the indoor air quality to exceed safe levels far too often. It is clear that the ODS did not turn off the gas for the 20% of the heaters that exceeded the carbon monoxide (CO) safety level. Worse yet an outright majority of the unvented heaters exceeded the safety levels for NO₂. (http://www.ventfree.org/images/stories/files/VentFree_SafeEfficient_V06.pdf)

The study monitored the combustion products in the residences for only 3 to 4 days in each of the 30 homes. It only took 3 or 4 days to find the air quality problems reported. Longer monitoring would likely have reported problems with additional residences. Does the industry still conclude there is no evidence of problems?

The 2012 IECC requires residences in most of the US (climates zone 3 to 8) to be tested to show an air leakage of 3 ACH50 or less (IECC R402.4.1.2). The residences in this study were also tested for air tightness, with the tightest being almost twice as leaky as allowed by the new IECC and the average (median) being almost 4 times as leaky as allowed by the new energy code. New commercial buildings also have substantially more stringent air tightness requirements ((IECC C402.4). If anything, the study of the 30 residences underestimates the air quality problems in new dwelling units.

As if to echo these concerns with health and safety here, it is significant that a number of the producers of vented heater products refuse to produce unvented products due to their concerns with health and safety issues (Hearth & Home Technologies, Jotul, Kozy Heat Fireplaces, Mendota Fireplaces, Renni, Travis Industries), including the largest maker of fireplaces and hearth products.

Unvented gas room heaters do not belong in dwelling units.

1. "Measured concentrations of combustion gases from the use of unvented gas fireplaces". Francisco, P. W., Gordon, J. R. and Rose, B. (2010), Indoor Air, volume 20: pages 370–379.
2. NO₂ measurements are average over one hour.
3. http://www.ventfree.org/images/stories/files/VentFree_SafeEfficient_V06.pdf

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

621.2-FG-CONNER

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal would prohibit unvented heaters in older homes that have greater air infiltration. The nitrogen dioxide levels discussed are more stringent than recommended by the CPSC. No substantiation was given to demonstrate that the current restrictions for these appliances are inadequate.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment 1:

Craig Conner, Building Quality, representing self, requests Approval as Submitted.

Commenter's Reason: Pollutants released into an airtight home by an unvented heater are a health issue. The solution is simple—don't put the problem into the home. Use a vent.

The committee reason states "no substantiation was given to demonstrate the current restrictions for these appliances are inadequate". However, the reason statement for the original proposal cited a recent study of 30 homes with unvented heaters. After measuring air quality in these homes for only 3 or 4 days tests showed nitrogen dioxide and/or carbon monoxide levels exceeding safe levels in over half of the homes, clearly demonstrating a health problem.

The committee reason states that the CPSC (Consumer Product Safety Commission) nitrogen dioxide limit is less restrictive than the limits cited in the study. True, the US, Canadian and European nitrogen dioxide limits are between 110 and 250 ppb. The CPSC limit is 300 ppb. However, even using the less restrictive CPSC limit, 12 of the 30 homes studied exceeded the CPSC nitrogen dioxide limit. Clearly nitrogen dioxide is a problem with unvented heaters, which is why the study concluded

"Levels of NO₂ that exceeded health-based guidelines occurred regardless of usage patterns, so should be considered inherent to the fireplace performance."

The precedent for restricting the use of unvented heaters is easy to find. The existing IFGC sentence immediately prior to the proposed new sentence says "Unvented room heaters shall not be installed within occupancies in Groups A, E and I."

Residences continue to get tighter and more susceptible to air quality problems originating inside the home. Venting the combustion products at the source (the unvented room heater) makes much more sense than venting a whole house on the prospect that an unvented heater might be in the space. Excessive ventilation wastes energy, undermining the value of new energy-efficient homes. The solution is simple; require vented heaters and eliminate unvented heaters.

Public Comment 2:

Gregg Achman, representing VP Product Engineering & Standards, Hearth & Home Technologies, Inc requests Approval as Submitted.

Commenter's Reason: Hearth and Home Technologies (HHT) is the world's largest manufacturer of hearth products under the brands Heatilator®, Heat & Glo™, Quadra-Fire® and Harman. Annually, we manufacture hundreds of thousands of gas, wood, pellet and electric hearth systems. We are the recognized technology leader in the hearth industry and have more design patents than any other company including a patent for unvented gas fireplaces that dates back to 2000. We have the ability to make and sell unvented gas hearth products; but in the best interest of the homeowner/consumer choose not to make or sell unvented gas hearth products.

Additionally, we own the largest hearth installation and distribution company in the US, acquired in 2000. When acquired the distribution business was selling a large amount of unvented products. We exited the unvented category at significant financial risk to our revenue and profitability, unless we could convert the new company's builders and consumers to a vented product. We did this because we believed so strongly that the unvented gas category is not right for the homeowner/consumer. As we have acquired more companies through the years, the same decision has been made each and every time.

Our vision is to be profitable, to be responsible corporate citizens and to create long term value for our stakeholders while conducting our business in a way that sustains the well-being of society, our environment and the economy in which we live and work. Quite simply, we consider selling unvented gas heater products irresponsible. We have always held that the unvented gas heater category was not in the best interest of the homeowner/consumer and therefore should not be manufactured by the industry. It is our opinion unvented gas heaters are not appropriate for today's homes for the reasons listed below. Our position has gotten stronger through the years, as proof of our concerns has grown with the increased use of the unvented category since the mid 1990's.

Expanding consensus to exclude unvented gas appliances.

- Virtually all of the largest national homebuilders have ceased using unvented gas hearth products because of inherent liability.
- Many jurisdictions ban or severely limit the application of unvented gas heaters. With housing being built tighter and more efficient every year, we believe this ban should be consistent in all jurisdictions.
- National organizations have introduced green building programs which exclude unvented gas appliances as a prerequisite to certification. Those include US Green Building Council's LEED® for Homes, American Lung Association's Health House® and Environmental Protection Agency's Energy Star® with Indoor Air Package. The National Association of Home Builders' National Green Building Standard (ICC-700) requires the use of direct vent systems and prohibits unvented devices.
- The 2012 IGCC, Section 804.1, states that unvented room heaters and unvented decorative appliances, including alcohol burning, shall be prohibited.

Reduced indoor air quality (IAQ).

1. Water vapor from the gas combustion process exhausts at approximately 1 quart/hour. Tightly built homes can't adequately process this additional moisture, so mold growth can result as condensation accumulates on cooler surfaces in the home.
2. Unhealthy indoor air quality can result from the byproducts of unvented gas combustion, specifically: carbon monoxide, nitrogen dioxide and ultrafine particle matter which has been linked to health effects such as oxidative damage to DNA and mortality.
3. Improper usage and installation by homeowner/consumers can put them in an unsafe position in violation of manufacturer's instructions.
 - Manufacturer's claim that unvented gas appliances are "99% efficient" leading consumers to believe these appliances can be used as primary heat sources. In reality, the 99% efficiency claim is attainable only if all the water vapor condenses completely within the home.
 - Public statements show many "do-it-yourself" homeowners lack the knowledge to properly install and maintain unvented gas heaters.

Better alternatives, in line with consumer preferences, comprise the majority of what is sold and in use today. The vented products are cost competitive.

- Unvented gas appliances have represented a declining share of hearth market since 1997.
- Manufacturers provide comparable vented gas appliances at a comparable consumer cost.
- The consumer advantage with unvented gas appliances being cheaper to install does not justify the risks.
- Many other manufacturers of hearth products choose not to manufacture unvented gas hearth products. The vast majority of manufacturers of unvented gas appliances also manufacture vented gas appliances, so they could also change to vented products.

Not one person on our management team would use unvented gas hearth products in their home. We believe that homeowner/consumers are people just like us and would want the same thing we do. The best overall value product should safely meet their needs and the unvented category does not, so why would we manufacture and sell them? The potential liability is a financial risk; but, more than money is at issue here. Behaving responsibly means having a positive impact on the environment of people's homes where our product is used. We must strive to move beyond what we have the right to sell our customers—but to focus on what is the right thing to sell our customers.

FG36-12

Final Action: AS AM AMPC_____ D

FG40-12

407.2

Proposed Change as Submitted

Proponent: Dan Buuck, representing National Association of Home Builders (NAHB)
(dbuuck@nahb.org)

407.2. Design and Installation. *Piping* shall be supported with ~~metal~~ pipe hooks, ~~metal~~ pipe straps, ~~metal~~ bands, ~~metal~~ brackets, ~~metal~~ hangers, or building structural components, suitable for the size of *piping*, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration. *Piping* shall be anchored to prevent undue strains on connected appliances and shall not be supported by other *piping*. Pipe hangers and supports shall conform to the requirements of MSS SP-58 and shall be spaced in accordance with Section 415. Supports, hangers and anchors shall be installed so as not to interfere with the free expansion and contraction of the *piping* between anchors. All parts of the supporting *equipment* shall be designed and installed so they will not be disengaged by movement of the supported *piping*.

Reason: This change from the 2006 International Fuel Gas Code (IFGC) is clearly proprietary in nature. To disallow any other material that is proven to meet the requirements for support is contrary to the spirit of the ICC family of codes (I-Codes). Section 105.2 specifically states that the code should be inclusive in nature as long as products and materials meet the qualities necessary to meet their intended purpose. Favoring one material over another without reason is unacceptable. The change to the 2009 IFGC is too restrictive and eliminates other support materials that have been used successfully for years.

The 2012 change will have a significant impact on several manufacturers that have established alternate materials for piping supports. If the structural properties of a material is tested and proven to meet the structural specifications for supporting the piping it should be accepted for use. Even the referenced standard, MSS SP-58, allows other materials to be used provided they comply with the allowable stress requirements in the standard—taking into consideration the effects of temperature on the strength of the material.

If the material requirements for this section are not removed, it allows this code to become exclusionary. In the past the I-Codes have railed from the exclusivity of other codes that limit the type of materials. Materials that have proven themselves acceptable over the years should not be eliminated to prosper one type of material.

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

407.2-FG-BUUCK

Public Hearing Results

This code change was contained in the Updates to the 2012 Proposed Changes posted on the ICC website. Please go to <http://www.iccsafe.org/cs/codes/Pages/12-13-ProposedChanges-A.aspx>

Committee Action:

Disapproved

Committee Reason: Current text is consistent with ANSI Z223.1 and NFPA 54. In the event of fire, plastic hangers would be less safe than metal hangers. As proposed, the text would allow any material without restriction. Pipe manufacturers do not recommend plastic hangers for their pipe. The load rating for nonmetallic hangers is unknown.

Assembly Action:

None

Individual Consideration Agenda

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

Public Comment:

Dan Buuck, Dipl.-Ing, representing (FH), National Association of Home Builders (NAHB) requests Approval as Submitted.

Commenter's Reason: The committee's reason for disapproving this proposal is flawed. It states that this proposal will allow any material without restriction. That is not correct, because the section, as written, references MSS SP-58 which specifies allowable stresses, load ratings and temperatures. The code traditionally leaves material requirements up to the standards it references. It does not need to go beyond the standard this time and be more restrictive.

Additionally, calling out a specific material without giving guidance as to what would constitute an acceptable alternative conflicts directly with Section 105.2 which states "The provisions of this code are not intended to prevent the installation of any material ... not specifically prescribed by this code."

FG40-12

Final Action: AS AM AMPC____ D
