

IFGC



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2015 GROUP A PROPOSED CHANGES TO THE I-CODES MEMPHIS COMMITTEE ACTION HEARINGS

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2015 GROUP A – PROPOSED CHANGES TO THE INTERNATIONAL FUEL GAS CODE

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TENTATIVE ORDER OF DISCUSSION 2015 PROPOSED CHANGES TO THE INTERNATIONAL FUEL GAS CODE

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

Proposed change numbers that are indented are those which are being heard out of numerical order. Indentation does not necessarily indicate that one change is related to another. Proposed changes may be grouped for purposes of discussion at the hearing at the discretion of the chair. Note that some FG code change proposals may not be included on this list, as they are being heard by another committee.

Number(s) Not Used:

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FG 1-15

202 (New)

Proponent: Donald Jones, None, representing Self

2015 International Fuel Gas Code

Add new definition as follows:

SECTION 202 DEFINITIONS

TOILET, GAS-FIRED An appliance, comprised of a toilet and an incinerator that is manufactured and installed as one complete unit, and is used to reduce human fecal matter to ash

Reason: Water heater, boilers, and furnaces are defined in this code. Less common appliances such as gas-fired air conditioners and log lighters are also defined in this code. Gas-fired toilets are referenced in 626.1 and 626.2, but they are not defined in this code.

Cost Impact: Will not increase the cost of construction

This is a definition only. It will not increase the cost of construction.

FG 1-15 : 202-TOILET, GAS-FIRED
(New)-JONES5202

FG 2-15

202

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

2015 International Fuel Gas Code

Revise as follows:

SECTION 202 DEFINITIONS

[M] APPLIANCE. Any apparatus or device that utilizes a fuel or a raw material as a fuel to produce light, heat, power, refrigeration or air conditioning. Also, an apparatus that compresses fuel gases.

Reason: A new generation of residential CNG fueling systems are under development that would be design certified to a new ANSI standard. These appliances would not be considered an appliance under the current definition. They will consume electricity to compress fuels. The revision will ensure that all of the IFGC's general appliance installation requirements are also applied to residential CNG equipment. The change would also correct an inconsistency in the current IFGC where Sections 413.2.3 and 413.4 currently refers to this equipment as appliances.

Cost Impact: Will not increase the cost of construction

The change does not impact appliance installation costs for those already covered by the definition.

FG 2-15 : 202 [M] APPLIANCE-
RANFONE4933

FG 3-15

202

Proponent: Curtis Dady, Viega, LLC, representing Viega, LLC (curtis.dady@viega.us)

2015 International Fuel Gas Code

Revise as follows:

SECTION 202 DEFINITIONS

JOINT, MECHANICAL. A general form of gas-tight joints obtained by the joining of metal parts through a positiveholding mechanical construction, such as ~~press~~press-connect joint, flanged joint, threaded joint, flared joint or compression joint.

Reason: Harmonize the designation and definition of PRESS-CONNECT fittings and joints throughout the code.

Both referenced standards (ANSI LC-4/CSA 6.32 and ASME B16.51) listed in the code use the designation "press-connect" in the title and body of the standard as well as code sections IPC 605.14.5, IRC P2906.18 and IRC G2414.10.2.

Cost Impact: Will not increase the cost of construction
Change is editorial and has no affect on installation.

FG 3-15 : 202-JOINT, MECHANICAL-
DADY3655

FG 4-15

202

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

2015 International Fuel Gas Code

Revise as follows:

SECTION 202 DEFINITIONS

FURNACE, CENTRAL

A self-contained *appliance* for heating air by transfer of heat of combustion through metal to the air, and designed to supply heated air through ducts to spaces remote from or adjacent to the *appliance* location.

~~**Downflow furnace.** A furnace designed with airflow discharge vertically downward at or near the bottom of the furnace.~~

~~**Forced air furnace with cooling unit.** A single package unit, consisting of a gas-fired forced-air furnace of one of the types listed below combined with an electrically or fuel gas-powered summer air conditioning system, contained in a common casing.~~

~~**Forced-air type.** A central furnace equipped with a fan or blower that provides the primary means for circulation of air.~~

~~**Gravity furnace with booster fan.** A furnace equipped with a booster fan that does not materially restrict free circulation of air by gravity flow when the fan is not in operation.~~

~~**Gravity type.** A central furnace depending primarily on circulation of air by gravity.~~

~~**Horizontal forced-air type.** A furnace with airflow through the *appliance* essentially in a horizontal path.~~

~~**Multiple-position furnace.** A furnace designed so that it can be installed with the airflow discharge in the upflow, horizontal or downflow direction.~~

~~**Upflow furnace.** A furnace designed with airflow discharge vertically upward at or near the top of the furnace. This classification includes "highboy" furnaces with the blower mounted below the heating element and "lowboy" furnaces with the blower mounted beside the heating element.~~

Reason: The IFGC code requirements do not differentiate between the various furnace types proposed to be deleted and the terms do not appear in the code. Definitions for Central Furnace and Forced-air type will remain in the code.

Cost Impact: Will not increase the cost of construction

Furnaces described by the deleted definitions are covered under the remaining two definitions and their installation are not impacted by this change.

FG 4-15 : 202-DOWNFLOW
FURNACE-RANFONE4943

FG 5-15

202

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

2015 International Fuel Gas Code

Revise as follows:

SECTION 202 DEFINITIONS

[M] PIPING. Where used in this code, "*pipng*" refers to either pipe or tubing, or both.

Pipe. A rigid conduit of iron, steel, copper, ~~brass-copper-alloy~~ or plastic.

Tubing. Semirigid conduit of copper, aluminum, plastic or steel.

Reason: The term brass was replaced with copper alloy throughout the IFGC (S) extracted sections. The definition revision coordinates with those changes. The copper industry no longer refers to brass using the term copper alloy.

Cost Impact: Will not increase the cost of construction
Same material - different name.

FG 5-15 : 202-PIPE-RANFONE4957

FG 6-15

202

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

2015 International Fuel Gas Code

Revise as follows:

SECTION 202 DEFINITIONS

REGULATOR, GAS APPLIANCE.

A pressure regulator for controlling pressure to the manifold of the *appliance*. ~~Types of appliance regulators are as follows:~~

~~Adjustable:~~

- ~~1. Spring type, limited adjustment. A regulator in which the regulating force acting upon the diaphragm is derived principally from a spring, the loading of which is adjustable over a range of not more than 15 percent of the outlet pressure at the midpoint of the adjustment range.~~
- ~~2. Spring type, standard adjustment. A regulator in which the regulating force acting upon the diaphragm is derived principally from a spring, the loading of which is adjustable. The adjustment means shall be concealed.~~

~~**Multistage.** A regulator for use with a single gas whose adjustment means is capable of being positioned manually or automatically to two or more predetermined outlet pressure settings. Each of these settings shall be adjustable or nonadjustable. The regulator may modulate outlet pressures automatically between its maximum and minimum predetermined outlet pressure settings.~~

~~Nonadjustable:~~

- ~~1. Spring type, nonadjustable. A regulator in which the regulating force acting upon the diaphragm is derived principally from a spring, the loading of which is not field adjustable.~~
- ~~2. Weight type. A regulator in which the regulating force acting upon the diaphragm is derived from a weight or combination of weights.~~

Reason: The IFGC code requirements do not differentiate between the various appliance regulator types and the terms do not appear in the code.

Cost Impact: Will not increase the cost of construction

The regulator whose definitions are deleted are covered by the general definition without change in installation requirements.

FG 6-15 : 202-REGULATOR, GAS
APPLIANCE-RANFONE4945

FG 7-15

202 (New)

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

2015 International Fuel Gas Code

Add new definition as follows:

SECTION 202 DEFINITIONS

Regulator, Monitoring A pressure regulator set in series with another pressure regulator for the purpose of automatically taking control of the pressure downstream of the monitored regulator when that pressure exceeds a set minimum.

Reason: Add a definition for the term monitoring regulator that was added into Section 416.5.

Cost Impact: Will not increase the cost of construction

The term is currently undefined but code requirements exist. The new definition does not impact the cost of installation.

FG 7-15 : 202-REGULATOR,
MONITORING (New)-RANFONE4950

FG 8-15

202 (New)

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

2015 International Fuel Gas Code

Add new definition as follows:

SECTION 202 DEFINITIONS

Regulator, Series A A pressure regulator in series with one or more other pressure regulators.

Reason: Add a definition for the term series regulator that was added into Section 416.5.

Cost Impact: Will not increase the cost of construction

The new definition for a term used within the code does not change the installation requirements and therefore has no impact on installation cost.

FG 8-15 : 202-REGULATOR, SERIES
(New)-RANFONE4953

FG 9-15

202

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

2015 International Fuel Gas Code

Revise as follows:

SECTION 202 DEFINITIONS

THERMOSTAT.

Electric switch type.

A device that senses changes in temperature and controls electrically, by means of separate components, the flow of gas to the burner(s) to maintain selected temperatures.

~~**Integral gas valve type.** An automatic device, actuated by temperature changes, designed to control the gas supply to the burner(s) in order to maintain temperatures between predetermined limits, and in which the thermal actuating element is an integral part of the device.~~

- ~~1- Graduating thermostat. A thermostat in which the motion of the valve is approximately in direct proportion to the effective motion of the thermal element induced by temperature change.~~
- ~~2- Snap-acting thermostat. A thermostat in which the thermostatic valve travels instantly from the closed to the open position, and vice versa.~~

Reason: The term integral gas valve type thermostat does not appear in the IFGC.

Cost Impact: Will not increase the cost of construction
There are no specific code requirements for this type of thermostat.

FG 9-15 : 202-THERMOSTAT-
RANFONE4947

FG 10-15

202

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

2015 International Fuel Gas Code

Delete and substitute as follows:

SECTION 202 DEFINITIONS

UNIT HEATER.

~~**High-static pressure type.** A self-contained, automatically controlled, vented *appliance* having integral means for circulation of air against 0.2 inch (15 mm H₂O) or greater static pressure. Such *appliance* is equipped with provisions for attaching an outlet air duct and, where the *appliance* is for indoor installation remote from the space to be heated, is also equipped with provisions for attaching an inlet air duct.~~

~~**Low-static pressure type.** A self-contained, automatically controlled, vented *appliance*, intended for installation in the space to be heated without the use of ducts, having integral means for circulation of air. Such units are allowed to be equipped with louvers or face extensions made in accordance with the manufacturer's specifications.~~

A self-contained, automatically controlled, vented, fuel-gas-burning space-heating appliance, intended for installation in the space to be heated without the use of ducts, and having integral means for circulation of air.

Reason: The IFGC code requirements do not differentiate between high- and low-static unit heaters and the terms do not appear in the code. The revised simplified definition is taken from the revised definition in the 2015 *National Fuel Gas Code*, ANSI Z223.1/NFPA 54. This proposal is offered solely for the purpose of coordinating the IFGC with ANSI Z223.1 (NFGC). This text is offered "as is" for the IFGC and it is not intended that such text be modified from a technical standpoint. The subject text was revised in the 2015 NFGC (ANSI Z223.1) and this proposal will cause the IFGC text to be consistent with such revised text in ANSI Z223.1 (NFGC).

Cost Impact: Will not increase the cost of construction

The definition does not change the installation requirements for unit heaters.

FG 10-15 : 202-UNIT HEATER (New)-
RANFONE4938

FG 11-15

303.3

Proponent: Timothy Manz, representing Association of Minnesota Building Officials
(tmanz@ci.blaine.mn.us)

2015 International Fuel Gas Code

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.
6. A gas clothes dryer is installed in a bathroom or toilet room and a permanent opening having an area of not less than 100 square inches is provided that allows the toilet room or bathroom to communicate with a common hallway or common space.

Reason: In older homes the electrical service is not large enough for an electric dryer, so installing a gas dryer is the only option. In many homes it is desirable to have the gas dryer in an over-sized bathroom or toilet room on an upper floor. This provision provides a safe installation by requiring a minimum 100 square inch opening to a common space that ensures adequate natural ventilation is provided.

Cost Impact: Will not increase the cost of construction

This provision will not increase the cost of construction since it provides flexibility in the dryer installation.

FG 11-15 : 303.3-MANZ5820

FG 12-15

303.3.1 (New)

Proponent: John Williams, CBO, Chair, representing Adhoc Health Care Committee (AHC@iccsafe.org)

2015 International Fuel Gas Code

Add new text as follows:

303.3.1 Fireplaces and decorative appliances in Group I-2 Condition 2 occupancies. Gas fireplace appliances and decorative gas appliances shall be prohibited in Group I-2, condition 2 occupancies except in public lobby and waiting areas that are not within smoke compartments containing patient sleeping areas. Such fireplace appliances and decorative appliances shall be installed in accordance with all of the following:

1. The appliances shall be vented to the outdoors.
2. The appliances be of the direct-vent type.
3. The appliances shall automatically shut off upon activation of the fire alarm system serving the occupancy.
4. The appliance controls shall be located where they can be accessed only by facility staff.
5. A carbon monoxide detector with a local alarm shall be provided and installed in accordance with Section 915 of the *International Fire Code*.

Reason: The AHC committee is recommending limitations for the use of fuel gas-fired fireplaces and decorative equipment and the restriction of solid-fuel burning fireplaces and appliances in the Group I-2, Condition 2 occupancy. Please note: these are not new requirements for the Group 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.

It is standard practice and operational procedure to control the ignition sources in healthcare 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 are not completely addressed in the I-Codes.

The language proposed in the IFGC prescribes limitations and conditions to provide the necessary safety and limitations of hazards from within the healthcare environments to the fire and ignition sources inherent to all gas-fired fireplaces and appliances. Combustion air has been restricted from being drawn from healthcare environments extending beyond the last decade and is not a new requirement.

The physical separation of the combustion chambers of gas-fired fireplaces and 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 in accordance with an existing exception that is provided for in IFGC Section 303.3.

The placement of solid fuel burning fireplaces and appliances, both decorative and heating, creates conditions where open flames that are not otherwise able to be controlled or extinguished like the similar gas-fed and fired appliances. This is why the Adhoc Healthcare Committee is proposing their restriction instead of a limitation with operational and special control equipment.

The code sections that address the installation limitations of fuel gas-fired fireplaces and appliances will also provide alternative means for compliance for existing facilities. Given the hazards present with these appliances in the Group I-2, Condition 2 Occupancies, the proposed IFC requirements will be 'retro-active' requirements for healthcare occupancies (Group I-2);

The proposals to the IFC that are being put forth by the Adhoc Healthcare Committee have been drafted to clarify, restrict and limit the ignition source hazards in healthcare occupancies and also will reference similar requirements being proposed in the IBC, IMC AND IFGC. For instance, solid fuel heating appliances are limited by other requirements of the IMC which is why heating appliances are not needed to be referenced in this section of the *IFGC*.

There was a concern mentioned during testimony at the code hearings for the 2012 I-codes that the AHC code change proposals placing restrictions on solid fuel burning fireplaces and appliances and fuel gas-fired fireplaces and appliances might be misinterpreted to prohibit mechanical heating equipment elsewhere regulated in the IMC.

The ICC Ad Hoc Committee on Healthcare (AHC) has just completed its 4th year. The AHC was established by the ICC Board to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. This is 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. Information on the AHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the AHC effort can be downloaded from the AHC website. <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

Cost Impact: Will not increase the cost of construction

Wood burning fireplaces are not permitted by the federal CMS regulations, therefore, there is no change in cost of construction.

FG 13-15

303.7

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

2015 International Fuel Gas Code

Revise as follows:

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

Reason: This section lacks some detail in floor and control side language. This modification completes this section and has all the information necessary for a code compliant installatoin.

Cost Impact: Will not increase the cost of construction

There will be no additional cost as this is only a correlation between codes to make them consistent with each other.

FG 13-15 : 303.7-MCMANN3367

FG 14-15

304.13(IFGS) (New)

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

2015 International Fuel Gas Code

Add new text as follows:

304.13(IFGS) Existing appliances. Where an existing appliance is located within the conditioned space of an existing building envelope and where a building envelope component, other than roofing material, is replaced or altered, the appliance installation shall be inspected to verify compliance with the provisions of Section 304 and Chapter 5. Where an appliance installation does not comply with Section 304 and Chapter 5, it shall be altered as necessary to be in compliance with such.

Reason: AGA is proposing an extract of section 9.1.24 from ANSI Z223.1, National Fuel Gas Code.

The code requirement would address renovations to existing buildings that could impact the supply of combustion air and the performance of venting systems. AGA is aware of weatherization programs that fail to consider the importance of ensuring that existing gas appliance installations continue to meet the IFGC combustion air and venting requirements when efforts to reduce air infiltration are undertaken. This proposal is offered solely for the purpose of coordinating the IFGC with ANSI Z223.1 (NFGC). This text is offered "as is" for the IFGC and it is not intended that such text be modified from a technical standpoint. The subject text was revised in the 2015 NFGC (ANSI Z223.1) and this proposal will cause the IFGC text to be consistent with such revised text in ANSI Z223.1 (NFGC).

Cost Impact: Will increase the cost of construction

The cost to inspect appliances will be added to projects that alter exterior building components. There may be additional costs to bring the appliance installation up to compliance with the IFGC. These are necessary costs to ensure the life-safety of the building occupants.

FG 14-15 : 304.13 (IFGS) (New)-
RANFONE4964

FG 16-15

401.9

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

2015 International Fuel Gas Code

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.

Exceptions:

1. Steel pipe fittings one inch and less in size.
2. Steel pipe sections that are: two feet and less in length, cut from longer sections of pipe in the field and threaded in the field.

Reason: The first exception would allow short lengths of steel pipe that are cut from longer pipe stock containing the required identification markings. It is common practice to cut short lengths of pipe from longer pipe stock and threading them in the field. The cuts may result in the manufacturer's identification marking not appearing on the finished cut pipe. The second exception would allow small pipe fittings not to have manufacturer's markings. Small fittings used in low pressure gas piping installations represent an extremely low risk of failure and therefore manufacturer identification would serve no purpose.

Cost Impact: Will not increase the cost of construction
No new code requirements that would result in increased cost are proposed.

FG 16-15 : 401.9-RANFONE4971

FG 17-15

401.9

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

2015 International Fuel Gas Code

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.

Exceptions:

1. Steel pipe sections that are: two feet and less in length, cut from longer sections of pipe in the field and threaded in the field.
2. Steel pipe fittings 2 inch and less in size.
3. Where identification is provided on the product packaging or crating.
4. Where other approved documentation is provided.

Reason: The new exceptions would allow the following:

1. Short lengths of steel pipe that are cut from longer pipe stock where the stock has identification markings. It is common practice to cut short lengths of pipe from longer pipe stock. In those cases the identification marks may not appear on the cut pieces.
2. Small fittings such as bushings and couplings where markings have not been traditionally been included. These small diameter fittings are commonly used in low pressure gas piping systems and represent an extremely low risk of failure.
3. Where the packaging or documentation for the part has the manufacturer's identification but the part does not. Very small fittings and accessories often come in packaging that have the manufacturer's identification. At least one State, Georgia, has amended the IFGC to allow such an exception. The GA text states "401.9 Identification. Each length of pipe and tubing utilized in a fuel gas system shall bear the identification of the manufacturer. If not provided on the packaging or crating or by other approved documentations, each pipe fitting, utilized in a fuel gas system shall bear the identification of the manufacturer. "

Cost Impact: Will not increase the cost of construction

The proposal provides alternate methods to meet current code requirements.

FG 17-15 : 401.9-RANFONE5638

FG 18-15

401.9

Proponent: Bruce Swiecicki, representing National Propane Gas Association (bswecicki@npga.org)

2015 International Fuel Gas Code

Revise as follows:

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

Reason: Many fittings are not capable of being marked, such as the "all-thread" nipple. To NPGA's knowledge, no fitting manufacturer currently marks every fitting produced and there is no safety benefit to doing so. This is an example of a costly requirement that appears to have no value to either the code official, the installer, the building owner or the emergency responder.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction because it is removing an onerous requirement for marking pipe fittings.

Manufacturing costs will decrease as a result of not having to include an additional step by using machinery to put the manufacturer's mark on the pipe fittings it manufactures. This cost savings is expected to be passed on to the purchaser of the pipe fittings.

FG 18-15 : 401.9-SWIECICKI5660

FG 19-15

401.10

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

2015 International Fuel Gas Code

Revise as follows:

401.10 Third-party testing and certification. Piping, tubing and fittings shall comply with the applicable referenced standards, specifications and performance criteria of this code and shall be identified in accordance with Section 401.9. ~~Piping, tubing~~ Tubing and tubing fittings shall either be tested by an approved third-party testing agency or certified by an approved third-party certification agency.

Reason: There is no evidence that third-party testing and certification of schedule 40 steel piping and fittings is necessary to help ensure safety. This material has a long history of being manufactured in accordance with long standing material standards and has been safety used for fuel gas distrubution going back over 100 years.

Cost Impact: Will not increase the cost of construction
The proposal does not create new installation requirements for schedule 40 pipe.

FG 19-15 : 401.10-RANFONE4974

FG 20-15

401.10

Proponent: Bruce Swiecicki, representing National Propane Gas Association (bswiecicki@npga.org)

2015 International Fuel Gas Code

Delete and substitute as follows:

~~**401.10 Third-party testing and certification-Piping materials standards.** Piping, tubing and fittings shall comply with the applicable referenced standards, specifications and performance criteria of this code and shall be identified in accordance with Section 401.9. Piping, tubing and fittings shall either be tested by an approved third-party testing agency or certified by an approved thirdparty certification agency.~~

Piping, tubing and fittings shall be manufactured to the applicable referenced standards, specifications and performance criteria listed in Section 403 of this code and shall be identified in accordance with Section 401.9.

Reason: This requirement in the International Fuel Gas Code has far ranging impact that wasn't anticipated at the code development hearings. In many cases, there are no certification or testing requirements to use for flare nuts, tees, pipe nipples, etc.

The current requirement in section 401.10 is extremely onerous to the fuel gas industry with very little, if any, benefit to society. Piping, tubing and fittings are fabricated to various materials standards, such as those published by the American Society for Testing and Materials (ASTM) and the American Society of Mechanical Engineers (ASME). The material standards are shown in Section 403 of the IFGC. Third party testing or certification is a needless and unjustified expense to the industry. There has been no data presented to indicate that piping and fittings have been failing in the field.

Cost Impact: Will not increase the cost of construction

This proposal will markedly decrease the cost of construction without affecting the safety of the piping installation. The reason is that manufacturers will not be required to pay for a needless excercise of obtaining a third party certification to verify that their manufactured products comply with the appropriate material standards.

FG 20-15 : 401.10-SWIECICKI5663

FG 21-15

404.6

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

2015 International Fuel Gas Code

Revise as follows:

404.6 Underground penetrations prohibited. Gas *pipng* shall not penetrate building foundation walls at any point ~~below grade underground.~~ ~~Gas Buried gas~~ *pipng* shall enter and exit a building at a point above grade and the annular space between the pipe and the wall shall be sealed.

Reason: This is a clarification that gas piping in meter vaults is not considered buried piping and does not need to rise above grade to enter a building because the vaults are not air tight.

Cost Impact: Will not increase the cost of construction
There will be no additional cost as this is a simple clarification.

FG 21-15 : 404.6-MCMANN3545

FG 22-15

404.6

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

2015 International Fuel Gas Code

Revise as follows:

404.6 ~~Underground penetrations prohibited.~~ Piping through foundation wall. ~~Gas~~
~~Underground piping shall not penetrate building installed through the outer foundation walls at any point below grade.~~
~~Gas piping shall enter and exit basement wall of a building at, shall be encased in a point above grade and the~~
~~annular protective sleeve or protected by an approved device or method. The space between the pipe 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 2015 edition prohibits gas piping from penetrating a foundation or basement 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 a safe installation method. The revised language would reinstate this allowance. At least one State, Georgia, has amended the IFGC to delete the prohibition and allow below grade penetration similar to the proposed text. GA test is as follows: "404.6 Piping through foundation wall. Underground piping where installed below grade through the foundation or basement wall of a building, shall be encased in a protective pipe sleeve. The annular space between the gas piping and the sleeve shall be sealed."

Cost Impact: Will not increase the cost of construction
The reinstated installation practice will decrease installation costs.

FG 22-15 : 404.6-RANFONE4976

FG 23-15

404.6

Proponent: Bob Torbin, representing Omega Flex, Inc. (bob.torbin@omegaflex.net)

2015 International Fuel Gas Code

Revise as follows:

404.6 Underground penetrations prohibited. Gas *pip*ing shall not penetrate building foundation walls at any point below grade. Gas *pip*ing shall enter and exit a building at a point above grade and the annular space between the pipe and the wall shall be sealed.

Exception: Penetration of the building foundation at a point below grade shall not be prohibited where the point of penetration is not less than 10 feet measured horizontally from any piping upstream of the point of delivery. Gas piping installed through the foundation wall below grade shall be sleeved and the annular space between the sleeve and wall and between the sleeve and piping shall be sealed.

Reason: The current restriction on underground penetration has little impact on single family homes and is intended to remain in effect. However, there are several disadvantages when this restriction is applied to inner city locations and multi-family buildings where difficult access and far greater distances could significantly impact both cost and safety. There can be many penetrations of the foundation wall already permitted including water line(s), sewer/water drains, and electrical service. Any fugitive gas could penetrate the foundation wall at any of these locations (if not properly sealed) whether or not the gas service is restricted to above grade penetrations. By separating the wall penetration of the gas service away from the source of any potential leakage (i.e. the plastic service line), the probability of seepage through the foundation wall at a distant penetration point is significantly reduced. The likelihood of such an event is already small, and the proposed revision to this code requirement attempts to balance the need for safety while recognizing the wide range of conditions associated with different building applications, construction style and siting issues.

Cost Impact: Will not increase the cost of construction

On single family construction, the general labor and materials will be the same whether the piping goes above or below grade and then through the foundation wall. However, on multi-family construction (such as townhouses) significant cost savings can be realized by allowing the individual unit piping (from a single meter bank) to be placed underground around the perimeter of the foundation, and then allowed to penetrate the foundation wall below grade rather than rise above grade.

FG 23-15 : 404.6-TORBIN4969

FG 24-15

404.11, 404.11.1 (New), 404.11.2 (New), 404.11.2, 404.11.3 (New), 404.11.4 (New), 404.11.1

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

2015 International Fuel Gas Code

Revise as follows:

404.11 Protection against corrosion. Metallic

~~Steel pipe or tubing exposed to corrosive action, such as soil condition or moisture, shall be protected in an approved manner. Zinc coatings (galvanizing) shall not be deemed adequate protection for gas piping underground. Where dissimilar metals are joined underground, an insulating coupling or fitting shall be used. Piping shall not be laid in contact accordance with cinders Sections 404.11.1 through 404.11.5.~~

Add new text as follows:

404.11.1 Galvanizing Zinc coating shall not be deemed adequate protection for underground gas piping.

404.11.2 Protection methods. Underground piping shall comply with one or more of the following:

1. The piping shall be made of corrosion-resistant material that is suitable for the environment in which it will be installed.
2. Pipe shall have a factory-applied, electrically-insulating coating. Fittings and joints between sections of coated pipe shall be coated in accordance with the coating manufacturer's instructions.
3. The piping shall have a cathodic protection system installed and the system shall be monitored and maintained in accordance with an approved program.

Delete without substitution:

~~**404.11.2 Protective coatings and wrapping.** Pipe protective coatings and wrappings shall be approved for the application and shall be factory applied.~~

~~**Exception:** Where installed in accordance with the manufacturer's instructions, field application of coatings and wrappings shall be permitted for pipe nipples, fittings and locations where the factory coating or wrapping has been damaged or necessarily removed at joints.~~

Add new text as follows:

404.11.3 Dissimilar metals. Where dissimilar metals are joined underground, an insulating coupling or fitting shall be used.

404.11.4 Protection of risers. Steel risers connected to plastic piping shall be cathodically protected by means of a welded anode, except where such risers are anodeless risers.

Revise as follows:

~~404.11.1~~**404.11.5 Prohibited use.** *No change to text.*

Reason: The proposal replaces approved manner with additional enforceable code requirements and reorganizes the material for clarity based on new requirements adopted into the 2015 National Fuel Gas Code, ANSI Z223.1/NFPA 54. The reasons for the changes are as follows:

- Corrosion protection will be required for steel piping. Previously, the section applied to all metallic piping. Copper is the other metallic material that can be used but it is less susceptible to corrosion. Both steel and copper are less often used for low pressure underground piping. Plastic pipe is now the preferred material for underground installations.
- Unprotected steel piping is allowed where approved. There are some arid environments where corrosion projection may not be needed.
- The approved projective means allows for materials that are suitable for the environment that they are installed in such as stainless steel.
- All steel piping must be factory coated since field application often is incomplete containing holidays. It is these holidays that can focus corrosive activity in one spot. Fittings and portions of steel pipe that is striped for installation would be required to be coated using manufacturer's specified materials and methods. This is similar coverage in existing 404.11.2.
- An approved cathodic protective system is allowed. The NFGC did adopt extensive requirements for these systems but they are not proposed for the IFGC since the IFGC's focus is more on residential and light commercial.
- New requirement that risers (other than anodeless) be projected. Failures of these risers have been reported to the NFGC committee.

Cost Impact: Will not increase the cost of construction
Most of the revisions are a reorganization of existing requirements.

FG 24-15 : 404.11.1-RANFONE5038

FG 25-15

404.14, Chapter 8

Proponent: Bob Torbin, Omega Flex, Inc., representing Omega Flex, Inc. (bob.torbin@omegaflex.net)

2015 International Fuel Gas Code

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, a listed sleeve system 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.

Reason: Reason: The ICC Evaluation Service has issued a listing criteria for polyethylene sleeved CSST (LC 1023) dated May 2009. The use of listed encasement systems (such as polyethylene sleeved CSST) has been included in the National Fuel Gas Code (NFPA 54) since the 2012 edition. One such product listed to LC 1023 is the Omega Flex PS-II CSST system. This product has been used underground without failure or damage for approximately ten years with thousands of installations. Use of pre-assembled encasement systems streamline the installation of gas piping beneath buildings and concrete slabs, and eliminates underground joints on both the conduit and the internal gas piping. This will improve safety when installing such systems by eliminating potential underground leakage sites while providing effective corrosion protection for the piping.

Bibliography: ICC LC-1023: PMG Listing Criteria for Polyethylene Sleeved Corrugated Stainless Steel Tubing: May 2009
ANSI LC-1-2014: Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing

Cost Impact: Will not increase the cost of construction

The proposed code change will not increase the cost of construction. The use of a pre-engineered encasement system will result in cost savings because the piping and conduit are installed simultaneously. This avoids the labor cost of separately installing and joining the conduit segments and the pulling the piping through the conduit. In addition, the sealing and venting methods (when required) are also integrated within the encasement system, and thus eliminating the need to separately assemble and inject non-standardized sealing/venting components and sealing materials into open-ended conduit around the existing piping.

FG 25-15 : 404.14-TORBIN4623

FG 26-15

404.17.3

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

2015 International Fuel Gas Code

Revise as follows:

404.17.3 Tracer. A yellow insulated copper tracer wire or other *approved* conductor, or a product specifically designed for that purpose, shall be installed adjacent to underground nonmetallic *pipng*. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic *pipng*. The tracer wire size shall be not less than 18 AWG and the insulation type shall be suitable for direct burial.

Reason: There are products specifically designed as a tracer locator. Several gas utilities have allowed these products to be used in place of the traditional wire. The 2015 National Fuel Gas Code, ANSI Z223.1/NFPA 54, in section 7.1.7.3 was revised to allow these products.

Cost Impact: Will not increase the cost of construction
Provides an optional method, the standard method is still allowed.

FG 26-15 : 404.17.3-RANFONE5051

FG 27-15

408.4

Proponent: Janine Snyder, representing Plumbing, Mechanical, and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

2015 International Fuel Gas Code

Revise as follows:

408.4 Sediment trap. Where a sediment trap is not incorporated as part of the appliance, a sediment trap shall be installed downstream of the appliance shutoff valve as close to the inlet of the appliance as practical. The sediment trap shall be ~~either a tee fitting having a capped nipple of any length installed vertically in the bottommost opening of the run of the tee as illustrated in Figure 408.4 or other device approved as an effective sediment trap.~~ Illuminating appliances, ranges, clothes dryers, decorative vented appliances for installation in vented fireplaces, gas fireplaces and outdoor grills need not be so equipped.

Reason: The option for an "other device approved as an effective sediment trap" has been misinterpreted to allow configurations of tees that allow debris to pass over a nipple and cap installed in the branch opening of a tee. The current option was meant to address factory-built sediment trap devices, but they are not known to exist. This proposal clarifies the intent by referring to the run of tee which is consistent with the current FIGURE 408.4 of the code. The intent is not to allow the nipple cap to be connected to the branch opening of a tee because debris can simply jump over the branch opening.

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 assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code nor are the code requirements made more stringent.

FG 27-15 : 408.4-SNYDER3279

FG 28-15

408.4

Proponent: Janine Snyder, representing Plumbing, Mechanical, and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

2015 International Fuel Gas Code

Revise as follows:

408.4 Sediment trap. Where a sediment trap is not incorporated as part of the appliance, a sediment trap shall be installed downstream of the appliance shutoff valve as close to the inlet of the appliance as practical. The sediment trap shall be either a tee fitting having a capped nipple of any length installed vertically in the bottommost opening of the tee as illustrated in Figure 408.4 or other device approved as an effective sediment trap. Illuminating appliances, ranges, ~~clothes dryers~~, decorative vented appliances for installation in vented fireplaces, gas fireplaces and outdoor grills need not be so equipped.

Reason: The list of exempt appliances in this section is supposed to address those appliances that are attended while in use. The logic is that if the appliance is attended while in use, the operator would be aware of a malfunction and would act accordingly. It is arguable that such appliances are actually attended the entire time that they are used, but, it is obvious that clothes dryers are turned on and left unattended. Occupants often turn on clothes dryers and leave their home while the dryer operates. Clothes dryers are not attended while operating. Clothes dryers should have the same protection from debris in the gas line as furnaces, boilers, water heaters, etc. 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 assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact: Will increase the cost of construction

This proposal will increase the cost of construction because a sediment trap will be required where it was not previously required.

FG 28-15 : 408.4-SNYDER3280

FG 29-15

409.5.1

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

2015 International Fuel Gas Code

Revise as follows:

409.5.1 Located within same room. The shutoff valve shall be located in the same room as the *appliance*. The shutoff valve shall be within 6 feet (1829 mm) of the *appliance*, and shall be installed upstream of the union, connector or quick disconnect device it serves. Such shutoff valves shall be provided with *access*. Shutoff valves serving movable appliances, such as cooking appliances and clothes dryers, shall be considered to be provided with access where installed behind such appliances. *Appliance* shutoff valves located in the firebox of a *fireplace* shall be installed in accordance with the *appliance* manufacturer's instructions.

Reason: To clarify that an appliance shutoff valve installed behind or beside a movable appliance is allowed as long as the valve can be accessed by moving the appliance. There is some field confusion on the term "access" which is being misinterpreted as requiring the valve to be located in sight and readily accessible. At least one State, Georgia, has amended the IFGC to clarify that appliance shutoff valves can be installed in such locations. The State amendment reads: "409.5.4 Appliance valves, Shutoff valves located behind appliances such as range/ovens and clothes dryers shall be considered accessible."

Cost Impact: Will not increase the cost of construction
Clarifies the code intent.

FG 29-15 : 409.5.1-RANFONE5055

FG 30-15

409.5.3

Proponent: Janine Snyder, representing Plumbing, Mechanical, and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

2015 International Fuel Gas Code

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 feet (15 240 mm) of the *appliance served*, shall be located on the same floor level as the appliance served 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 Sections 401 through 408.

Reason: Section 409.5.3 allows the appliance shutoff valve to be located up to 50 feet from the appliance served. The code does not specify how the 50 foot limit is to be measured, therefore, it could be a straight line passing through walls and floors. This allowance could mean that a furnace in an attic could have its shutoff valve on a manifold that is located in the basement in a one, two or even 3 story building. Not only is this terribly inconvenient for the service personnel, but it could also be hazardous. In such cases, the service personnel would likely have to install a second shutoff valve at the appliance to save the hassle of running back and forth between the basement and the attic. There is no justification for allowing the only service shutoff valve to be so remote. The required shutoff valve is recognized as being there for servicing the appliance, however, it is not useful for servicing an appliance if it is located where it is impractical to access.

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 assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code nor are the code requirements made more stringent.

FG 30-15 : 409.5.3-SNYDER3281

FG 31-15

409.7 (New)

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

2015 International Fuel Gas Code

Add new text as follows:

409.7 Shutoff valves in tubing systems. Shutoff valves installed in tubing systems shall be rigidly and securely supported independently of the tubing.

Reason: Shutoff valves require independent support to prevent the possible twisting of the tubing when operating the valve. CSST systems already have this requirement in their installation instructions. Valves used in copper tubing systems should also be required to be secured. A similar requirement was added to the 2015 National Fuel Gas Code, ANSI Z223.1/NFPA 54, in section 7.3.6.

Cost Impact: Will increase the cost of construction
Minimum cost increase to secure the valve using low cost brackets to building members.

FG 31-15 : 409.7 (New)-RANFONE5059

FG 32-15

410.2

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

2015 International Fuel Gas Code

Revise as follows:

410.2 MP regulators. MP pressure regulators shall comply with the following:

1. The MP regulator shall be *approved* and shall be suitable for the inlet and outlet gas pressures for the application.
2. The MP regulator shall maintain a reduced outlet pressure under lock-up (no-flow) conditions.
3. The capacity of the MP regulator, determined by published ratings of its manufacturer, shall be adequate to supply the *appliances* served.
4. The MP pressure regulator shall be provided with *access*. Where located indoors, the regulator shall be vented to the outdoors or shall be equipped with a leaklimiting device, in either case complying with Section 410.3.
5. A tee fitting with one opening capped or plugged shall be installed between the MP regulator and its upstream shutoff valve. Such tee fitting shall be positioned to allow connection of a pressure-measuring instrument and to serve as a sediment trap.
6. A tee fitting with one opening capped or plugged shall be installed not less than 10 pipe diameters downstream of the MP regulator outlet. Such tee fitting shall be positioned to allow connection of a pressure-measuring instrument. A gas pressure test port on the inlet side of the gas control of an appliance served by the MP regulator is an alternative to the downstream tee fitting, where such appliance is located in the same room as the MP regulator.
7. Where connected to rigid piping, a union shall be installed within 1 foot (304 mm) of either side of the MP regulator.

Reason: The purpose of the tee fitting in item 6 is to test the regulator outlet/appliance inlet pressure. As virtually every gas appliance has an inlet pressure test plug, integral within the appliance, it is redundant to add a tee at the regulator, when an appliance is nearby. Further, the integral appliance test ports are 1/8" pipe thread, ready to accept the identical sized fitting on testing gages.

Cost Impact: Will not increase the cost of construction

This proposal will actually reduce cost as it will eliminate the material cost and labor required to install an unnecessary tee fitting and cap, when test ports are available within nearby gas appliances.

FG 32-15 : 410.2-URSENBACH5796

FG 33-15

410.4, Chapter 8

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

2015 International Fuel Gas Code

Revise as follows:

410.4 Excess flow valves. Where automatic *excess flow valves* are installed, they shall be listed ~~for the application in accordance with ANSI Z21.93/CSA 6.30,~~ and shall be sized and installed in accordance with the manufacturer's instructions.

Add new standard(s) as follows:

ANSI Z21.93/CSA 6.30 - 2013 Excess Flow Valves for Natural and LP Gas with Pressures Up To 5 psig

Reason: A new ANSI standard for excess flow valves has been approved and published. EFVs should be required to meet that standard to help ensure minimum performance.

Cost Impact: Will increase the cost of construction

Listed EFVs may be more expensive than unlisted units. EFV performance can be a critical life safety issue. Therefore, more expensive valves that help ensure they perform as planned is justified.

Analysis: A review of the standard proposed for inclusion in the code, ANSI Z21.93/CSA 6.30 , with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before April 2, 2015.

FG 33-15 : 410.4-RANFONE5065

FG 34-15

411.1, 411.4 (New)

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

2015 International Fuel Gas Code

Revise as follows:

411.1 Connecting appliances. Except as required by Section 411.1.1, *appliances* shall be connected to the *pipng* 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 used, and shall be to the gas *pipng* supply at an appliance shutoff valve, a listed quick-disconnect device or listed gas convenience outlet.
9. Gas hose connectors for use in laboratories and educational facilities in accordance with Section 411.4

Add new text as follows:

411.4 Injection Bunsen-type burners Injection Bunsen-type burners used in laboratories and educational facilities shall be connected to the gas supply system by either a listed or unlisted hose.

Reason: The IFGC is currently silent on the use of unlisted connectors for injection burners commonly referred to as Bunsen burners. Unlisted hoses are the only readily available product for such installations and their use is common place. The new code requirement will allow the use of unlisted hoses approved by the AHJ. The revision is based on similar code requirement adopted into the 2015 National Fuel Gas Code, ANSI Z223.1/NFPA 54.

Cost Impact: Will not increase the cost of construction
Recongonizes a product that is already used.

FG 34-15 : 411.1-RANFONE5075

FG 35-15

411.2

Proponent: Janine Snyder, representing Plumbing, Mechanical, and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

2015 International Fuel Gas Code

Revise as follows:

411.2 Manufactured home connections. The connection between the gas distribution piping system for a manufactured home and the gas service shall be located outside of the footprint of the home. Manufactured homes shall be connected to the distribution *piping* system by one of the following materials:

1. Metallic pipe in accordance with Section 403.4.
2. Metallic tubing in accordance with Section 403.5.
3. *Listed and labeled* connectors in compliance with ANSI Z21.75/CSA 6.27 and installed in accordance with the manufacturer's instructions.

Reason: Current Section 404.6 expresses the concern for gas piping entering a building at some point below grade. Likewise there is a concern for gas service piping running underground to a point underneath a manufactured home. Such homes will have skirting that creates what is, in effect, a crawl space. Any gas leakage from an underground lateral and riser pipe will collect under the home. If there is no underground riser and connection is made directly to a meter setting, the meter and service regulator should not be under the home. Also, having the gas service riser outside of the footprint of the home will help protect it from damage when a home is moved in or out. 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 assigned International Codes or portions thereof. This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code nor are the code requirements made more stringent.

FG 35-15 : 411.2-SNYDER3282

FG 36-15

502.1

Proponent: Larry Gill, representing IPEX USA LLC (larry.gill@ipexna.com)

2015 International Fuel Gas Code

Revise as follows:

502.1 General. Vents, except as provided in Section 503.7, shall be *listed* and *labeled*. Type B and BW vents shall be tested in accordance with UL 441. Type L vents shall be tested in accordance with UL 641. Vents for Category II, III and ~~III~~IV appliances shall be tested in accordance with UL 1738. ~~Plastic vents for Category IV appliances shall not be required to be listed and labeled where such vents are as specified by the appliance manufacturer and are installed in accordance with the appliance manufacturer's instructions.~~

Reason: UL 1738 is the Standard for Safety for Venting Systems for Gas-Burning Appliances, Categories II, III, and IV and should be referenced in the IFGC for all venting materials included in scope of the standard. The current exception not requiring plastic venting to be listed and labelled should be removed as recent changes to UL 1738 now allow PP, PVC and CPVC venting to be tested and listed to the 1738 standard. Further, appliance standards do not adequately address venting and only list plumbing DWV products. Plumbing products are not adequate for venting of appliances. UL 1738 is a system standard and does not permit the mixing of different pipe, fittings or joining methods from different manufacturers. This along with a listed and labelled system specifically designed for appliance venting will provide for a safer installation and home environment.

Cost Impact: Will increase the cost of construction

The proposed change may increase the cost of construction depending on the cost of a listed and labeled venting system.

FG 36-15 : 502.1-GILL3902

FG 37-15

618.2

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

2015 International Fuel Gas Code

Delete without substitution:

~~**618.2 Forced-air furnaces.** The minimum unobstructed total area of outdoor and return air ducts or openings to a forced-air warm-air furnace shall be not less than 2 square inches for each 1,000 Btu/h (4402 mm²/W) output rating capacity of the furnace and not less than that specified in the furnace manufacturer's installation instructions. The minimum unobstructed total area of supply ducts from a forced-air warm-air furnace shall be not less than 2 square inches for each 1,000 Btu/h (4402 mm²/W) output rating capacity of the furnace and not less than that specified in the furnace manufacturer's installation instructions.~~

~~**Exception:** The total area of supply air ducts and outdoor and return air ducts shall not be required to be larger than the minimum size required by the furnace manufacturer's installation instructions.~~

Reason: This is outdated legacy code language that was removed from the IMC and IRC last cycle and is not consistent with current practice. It's up to the design professional, the requirements from Manual D or the manufacturer of the appliance to determine minimum sizes of ducts and transfer openings, not the code. If these numbers were to be applied, then the code could be condoning an undersized system. IMC 603.2 spells it out. There are too many variables and different situations for just one minimum to work for everything.

Cost Impact: Will not increase the cost of construction
This deletion is editorial in nature.

FG 37-15 : 618.2-MCMANN3369

FG 38-15

618.4

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

2015 International Fuel Gas Code

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.
 8. Indoor swimming pool enclosures and associated deck areas except where such spaces are dehumidified.

Reason: It's not desirable to pull return air from swimming pool areas due to the negative affects it would have on the system from humidity to chemical odors associated with such places. A dedicated system would be required, a combination of supply and exhaust or the air should be dehumidified. This scenario is consistent with the same dwelling unit built under the IMC.

Cost Impact: Will not increase the cost of construction

No cost impact provided dehumidification isnt required.

FG 39-15

621.4

Proponent: Craig Conner, representing self (craig.conner@mac.com)

2015 International Fuel Gas Code

Revise as follows:

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 new dwelling units. The location of unvented room heaters shall comply with Section 303.3.

Reason: Unvented heaters in the newer, more airtight homes present a serious health issue. The solution is simple. Use a vented heater. New homes are much tighter due to the increased stringency in energy codes. Between the 2009 IECC and the 2015 IECC the required air tightness roughly doubled. As homes get rapidly tighter, air quality concerns grow.

Which codes and standards already prohibit unvented room heaters? The IFGC prohibits unvented heaters in occupancy groups A, E and I in Section 621.4. Minnesota and California prohibit them. Wisconsin prohibits them in houses built after 1980. Houston Texas, New York City, and many other cities prohibit unvented heaters. The ASHRAE ventilation standard excludes unvented heaters from its scope, presumably because the ASHRAE ventilation standards are not sufficient for unvented heaters (Section 3.2, ASHRAE 62.2-2013). Furthermore, many large builders will not install unvented heaters, in part out of concern for liability.

In the last code cycle the IFGC committee disapproved a proposal similar to this. The ICC Report of the Hearing gave three reasons. Each reason is quoted below and responded to:

Committee- "The proposal would prohibit unvented heaters in older homes that have greater air infiltration."

Response- This proposal only applies to new dwelling units, units required to be much more airtight by the new energy code.

Committee- "The nitrogen dioxide levels discussed are more stringent than recommended by the CPSC."

Response- This reason statement notes both the Consumer Products Safety Commission (CPSC) nitrogen dioxide limits and the more recent US EPA National Ambient Air Quality Standards¹ limit. Both standards were exceeded in the measurements cited in the paragraph below.

Committee- "No substantiation was given to demonstrate that the current restrictions for these appliances are inadequate. "

Response- The next two paragraphs cite a study of unvented heaters in actual use.

A study by the Building Research Council (BRC study) at the University of Illinois measured the air quality in 30 homes with unvented heaters². In the short monitoring period (3 to 4 days) several combustion products exceeded health limits in some of the houses. Of greatest concern is the nitrogen dioxide level inside the home. About 40% of the homes exceeded the Consumer Product Safety Council's nitrogen dioxide limit of 0.300 ppm. About 80% of the homes exceeded the US EPA National Ambient Air Quality Standards of 0.100 ppm. The BRC study concluded excessive nitrogen dioxide was inherently associated with unvented heaters: "Levels of NO₂ that exceeded health-based guidelines occurred regardless of usage patterns, so should be considered inherent in the fireplace performance".

Unvented heaters operate like humidifiers, but without humidity controls. Combustion of methane, the main component of natural gas, produces one part carbon dioxide and two parts water. Depending on the heater size and use duration the water produced could be a fraction of a cup (small heater, limited use) to more than a gallon (large heater, 4+ hours). The BRC study shows that some use unvented heaters for 4 hours or more.

ASHRAE's position paper on unvented heaters drew these conclusions from the BRC study: "This study found that 20% of homes exceeded the EPA and WHO threshold for an 8-hour average CO level of 9 ppm, primarily when they were used for continuous, extended periods of time. This usage pattern is contrary to industry recommendations, which state that unvented heaters should be used as supplemental heaters, not primary heaters or for excessive periods of time." As the ASHRAE position paper noted, the BRC study calls into question industry assumptions of only 2-hour usage periods in their safety studies. "Of the 30 homes, one used the fireplace as the sole source of heat for the home." And "... five were used continuously at least once for longer than 4 hours." The BRC study found longer period of use were associated with pollutant levels that exceeded health standards. Industry safety analysis usage assumptions need to be revised to include longer periods of use.

Yes, the unvented heaters have an "oxygen depletion sensor" (ODS). It is perhaps stating the obvious, but an oxygen sensor monitors oxygen, but not nitrogen dioxide or carbon monoxide. This sensor does not protect against other pollutants, such as the nitrogen dioxide and carbon monoxide levels the BRC study measured as exceeding the CPSC and EPA standards¹ in real homes.

In conclusion, the Consumer Product Safety Commission³ suggests removing air quality issues at the source: "Usually the most effective way to improve indoor air quality is to eliminate individual sources of pollution or to reduce their emissions." The CPSC recommends unvented heater users reduce the exposure to unvented heater combustion products in homes with unvented heaters- "While a space heater is in use, open a door from the room where the heater is located to the rest of the house and open a window slightly." This would seem antithetical to good energy efficiency practice. Building codes cannot and should not require doors or windows to be open to let in extra air to address health concerns.

Using a vented heater in a new, airtight home is a simple solution.

References:

1. US. EPA National Ambient Air Quality Standards (NAAQS)
<http://www.epa.gov/air/criteria.html>

2. "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 370-378.

3. "The Inside Story: A Guide to Indoor Air Quality" <http://www.cpsc.gov/en/safety-education/safety-guides/home/the-inside-story-a-guide-to-indoor-air-quality/>

Bibliography: "Measured concentrations of combustion gases from the use of unvented gas fireplaces". P. W. Francisco, J. R. Gordon, B. Rose. 2010. Indoor Air journal. Volume 20. Pages 370-379.

Cost Impact: Will increase the cost of construction

Vented heaters require a vent and are more limited in the practical locations where they can be placed. Vented heaters cost more to purchase.

Using these devices as heaters, as is sometimes [recommended by the "vent-free" industry](#), is not an acceptable trade of health/safety for \$\$ savings.

FG 39-15 : 621.4-CONNER5303

FG 40-15

623.2

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

2015 International Fuel Gas Code

Revise as follows:

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

~~Exception~~Exceptions:

1. Appliances that are also listed as domestic cooking appliances.
2. Where the installation is designed by a licensed Professional Engineer.

Reason: There are large residential properties that contain kitchens meant to be used for extensive entertaining purposes. These kitchens are often designed by professional engineers similar to commercial cooking installations. The IFGC currently allow such installations under 105.2 Alternate materials, methods, appliances and equipment. The proposed change would specifically permit these often requested installations. At least on State, Georgia, has amended the IFGC to permit such installation as follows: "Exception: Listed and labeled commercial cooking appliances may be installed in dwelling units and domestic kitchens when designed and accepted by a Georgia licensed Professional Engineer."

Cost Impact: Will not increase the cost of construction

These installations currently do occur under 105.2 and therefore no new code requirement is being proposed that would increase the cost of installation.

FG 40-15 : 623.2-RANFONE5077

FG 41-15

624.3 (New)

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

2015 International Fuel Gas Code

Add new text as follows:

624.3 Location. Water Heaters shall be located in accordance with Section 303.

Reason: This is just a user friendly pointer to direct the user to the proper section for water heater installation.

Cost Impact: Will not increase the cost of construction
There will be no additional cost as this is editorial in nature.

FG 41-15 : 624.1.2 (New)-
MCMANN3546

FG 42-15

Part I:

624.2

Part II:

P2803.1, M2004.1

Part III:

1002.2

THIS IS A 3 PART CODE CHANGE. PART I WILL BE HEARD BY THE IFGC COMMITTEE. PART II WILL BE HEARD BY THE IRC-MECHANICAL COMMITTEE. PART III WILL BE HEARD BY THE IMC COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

Proponent: Janine Snyder, representing Plumbing, Mechanical, and Fuel Gas Code Action Committee (PMGCAC@iccsafe.org)

Part I

2015 International Fuel Gas Code

Revise as follows:

624.2 Water heaters utilized for space heating. Water heaters utilized both to supply potable hot water and provide hot water for space-heating applications shall be *listed* and *labeled* for such applications by the manufacturer and shall be installed in accordance with the manufacturer's instructions and the *International Plumbing Code*. Water heaters shall not be utilized solely for space heating purposes.

Part II

2015 International Residential Code

Revise as follows:

P2803.1 Protection of potable water. Piping and components connected to a water heater for space heating applications shall be suitable for use with potable water in accordance with Chapter 29. ~~Water heaters that will be used to supply potable water shall not be connected to a heating system or components previously used with nonpotable-water heating appliances.~~ Chemicals for boiler treatment shall not be introduced into the water heater. Water heaters shall not be utilized solely for space heating purposes.

M2004.1 General. Water heaters used to supply both potable hot water and hot water for space heating shall be installed in accordance with this chapter, Chapter 24, Chapter 28 and the manufacturer's instructions. Water heaters shall not be utilized solely for space heating purposes.

Part III

2015 International Mechanical Code

Revise as follows:

1002.2 Water heaters utilized for space heating. Water heaters utilized both to supply potable hot water and provide hot water for space-heating applications shall be *listed* and *labeled* for such applications by the manufacturer and shall be installed in accordance with the manufacturer's instructions and the *International Plumbing Code*. Water heaters shall not be utilized solely for space heating purposes.

Reason: The current code recognizes that water heaters can have a dual role of spacing heating and domestic water heating, however, the code is silent on whether a water heater can be used only for space heating. If a water heater is used solely for space heating, it would no longer meet the definition of water heater in the code and would likely violate the listing of the water heater. If a water heater does not meet the definition of water heater, then what is it? It is certainly not a boiler. Hot water boilers are evaluated to entirely different standards than water heaters. A water heater must first be used to supply hot water to the potable water distribution system, and secondarily it can be used for space heating. By definition, a water heater always provides potable hot water.

The second sentence of Section P2803.1 of the IRC is nonsensical because it suggests that there are water heaters that are not used to supply potable water.

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 assigned International Codes or portions thereof.

This includes both the technical aspects of the codes and the code content in terms of scope and application of referenced standards. The PMGCAC has held one open meeting and multiple conference calls which included members of the PMGCAC. Interested parties also participated in all conference calls to discuss and debate the proposed changes.

Cost Impact:

Part I: Will not increase the cost of construction

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code nor are the code requirements made more stringent.

Part II: Will not increase the cost of construction

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code nor are the code requirements made more stringent.

Part III: Will not increase the cost of construction

This proposal will not increase the cost of construction because no additional labor, materials, equipment, appliances or devices are mandated beyond what is currently required by the code nor are the code requirements made more stringent.

FG 42-15 : 624.2-SNYDER3283

FG 43-15

202 (New)

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

2015 International Fuel Gas Code

Revise as follows:

SECTION 202 DEFINITIONS

[M] PIPING. Where used in this code, "*pipng*" refers to either pipe or tubing, or both.

Pipe. A rigid conduit of iron, steel, copper, ~~brass~~copper-ally or plastic.

Tubing. Semirigid conduit of copper, copper-alloy, aluminum, plastic or steel.

Reason: The proposal removes brass because brass is a copper-alloy and copper-alloy is the term used to identify materials manufactured where copper is the base metal and includes brass and bronze.

Cost Impact: Will not increase the cost of construction

This proposal will not increase the cost of construction as this change is only to update the name of a material that is already in the code.

FG 43-15 : R202-PIPE-FEEHAN4027