IFGC

2024 GROUP A PROPOSED CHANGES TO THE I-CODES

Committee Action Hearings (CAH #2)
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FG1-24

IFGC: 303.3

Proposed Change as Submitted

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

2024 International Fuel Gas Code

Revise as follows:

303.3 Prohibited locations. *Appliances* shall not be located in ~~sleeping rooms~~, bedrooms, 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. *Combustion air* shall be taken directly from the outdoors in accordance with Section 304.6.
6. A clothes dryer is installed in a residential bathroom or toilet room having a permanent opening with an area of not less than 100 square inches (0.06 m^2) that communicates with a space outside of a bedroom, bathroom, toilet room or storage closet.

Reason: 1. Replacing the words sleeping room with bedroom in the first paragraph of the code will align it with the exceptions. Nowhere in the exceptions is sleeping room used.

2. The question is, what is the difference between a sleeping room and a bedroom? The Miriam Webster dictionary defines a bedroom as: a room furnished with a bed and intended primarily for sleeping. There is no definition in Miriam Webster for sleeping room. A definition of sleeping area can be found in the Collins dictionary where a sleeping area is defined as: an area in a room or house where people can sleep but there is no definition of sleeping room. Law Insider has multiple citations for sleeping room from many different municipalities across the country. Most of the citations have differing opinions of what a sleeping room is or is not. In Chapter 2 of the IFGC, IMC, IBC or IRC sleeping room is not defined so anyone using the International Codes is left to figure out on their own what the term sleeping room encompasses. In summation, the words sleeping room are too vague for proper interpretation of what the code is trying to describe.

3. Sleeping room is a holdover from the 2003 IFGC Section 303.3 Prohibited locations code. There is no definition for sleeping room in Chapter 2 of the 2003 IFGC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

There is no cost as this is editorial in nature.

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Public Hearing Results (CAH1)

Committee Action: **Disapproved**

Committee Reason: The committee agrees 9-1 that the sleeping room is different than a bedroom and the way the current proposal is written may leave room for more unintended consequences.

FG1-24

Individual Consideration Agenda

Comment 1:

Proponents: Guy McMann, Jefferson County Colorado, CAPMO (gmcmann@jeffco.us) requests As Submitted

Reason: Chapter 2 (Definitions) does not list the term sleeping rooms/room. With no definition, use of the term sleeping rooms/room can change the meaning of the technical requirements of 303.3 (Prohibited locations). For example, walking through a room with a fold-out couch, futon or Murphy style bed to get to a mechanical room could potentially make any mechanical room a prohibited location. Anyone wanting to properly apply the requirements of 303.3 is left to determine on their own what a sleeping room is, making it impossible to have a consensus of what a prohibited location is for homeowners, contractors and code officials.

IFGC 201.3 TERMS DEFINED IN OTHER CODES

Where terms are not defined in this code and are defined in the International Building Code, International Fire Code, International Mechanical Code or International Plumbing Code, such terms shall have meanings ascribed to them as in those codes.

The IBC, IFC, IMC, IPC and IECC have no definition for the term “sleeping room”.

IFGC 201.4 TERMS NOT DEFINED

Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

Searching online for the term “sleeping room” multiple definitions from jurisdictions across the country can be found. For example,

1. Steamboat Springs, CO: Shall mean any room that has a bed, bunk beds, daybed or other furniture for sleeping, including, without limitation, a roll out couch or futon.

2. Kasson Township, MI: Sleeping room means space, other than a bedroom, used for overnight sleeping purposes.

3. Fayette, IA: Sleeping room means a room which has two working electrical outlets, an overhead light and a window to the outside.

4. El Paso County, CO: Pikes Peak Regional Building Department has an amendment to the 2021 IRC, Chapter 2 Definitions which states a sleeping room is a habitable space using primarily for sleeping purposes and containing a closet 16 inches or greater in depth.

Using these four examples it is apparent that sleeping room could be interpreted to be almost any room in a house, which could have the unintended consequence of making many mechanical rooms into a prohibited location. A contractor replacing a gas fired appliance who

has to walk through a room with a couch folded out into a bed might tell the homeowner the appliance is in a prohibited location. This assessment could encourage the homeowner to replace the appliance without obtaining a permit. Calling the room with the fold-out couch a sleeping room, a contractor might require the homeowner to make changes to the mechanical room such as

installing a self-closing gasketed door or to add another entrance. Any unnecessary changes such as these cost the homeowner for no other reason except that IFGC 303.3 has the term sleeping room in it. The same type of problem could occur when an inspector goes to a house to check a replacement appliance. The inspector might have to walk through a rec room that has a mattress on the floor and decide the mattress has made the rec room into a sleeping room and that the appliance is now installed in a prohibited location.

CAH1 COMMITTEE COMMENTS AND CONCERNS

It was mentioned by committee members and opponents to this proposed change that replacing sleeping room with bedroom would have unintended consequences by making the code less restrictive. I would argue keeping the term sleeping room has unintended consequences by making the code more difficult to properly enforce and goes against the stated purpose of the I Codes and Chapter 2, which is to maintain a consensus on the specific meaning of each term contained in the code. I would also argue that the IFGC is not in alignment with the other I codes because they do not reference sleeping room. It was also suggested at CAH1 that a definition should be added to the IFGC to clarify what a sleeping room is. Because of how ambiguous sleeping room is giving it a definition would be a very difficult task. An easier way to solve the problem is to remove sleeping rooms/room from 303.3 and replace it with bedrooms/bedroom. Why make a new definition for sleeping rooms/room when there is already an industry standard definition for bedroom? .

BENEFITS

1. Removing sleeping rooms/room from IFGC 303.3 and replacing it with bedrooms/bedroom provides better clarity of what is a prohibited location.

2. The purpose of each code cycle is to make the code easier to understand and more beneficial to anyone trying to properly apply the code.

3. Everyone knows what a bedroom is.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Comment (CAH2)# 388

FG4-24

IFGC: SECTION 202, SECTION 315 (New), 315.1 (New), 315.1.2 (New)

Proposed Change as Submitted

Proponents: Marcelo Hirschler, GBH International, GBH International (mmh@gbhint.com)

2024 International Fuel Gas Code

Delete without substitution:

~~**[M] NONCOMBUSTIBLE MATERIALS.** Materials that, where tested in accordance with ASTM E136, have not fewer than three of four specimens tested meeting all of the following criteria:~~

1. ~~The recorded temperature of the surface and interior thermocouples shall not at any time during the test rise more than 54ºF (30ºC) above the furnace temperature at the beginning of the test.~~
2. ~~There shall not be flaming from the specimen after the first 30 seconds.~~
3. ~~If the weight loss of the specimen during testing exceeds 50 percent, the recorded temperature of the surface and interior thermocouples shall not at any time during the test rise above the furnace air temperature at the beginning of the test, and there shall not be flaming of the specimen.~~

Add new text as follows:

SECTION 315
NONCOMBUSTIBLE MATERIALS

315.1 Testing. Noncombustible materials shall be those materials that comply with Section 703.3.1 of the International Building Code.

315.1.2 Inherently noncombustible materials. Inherently noncombustible materials, such as concrete and steel, shall not be required to be tested to be acceptable as noncombustible materials.

Reason: The so-called definition contained in the 2024 IFGC is said to be under the jurisdiction of the IMC (in accordance with the [M] in front of it). In fact it is not identical to the definition in the IMC, which reads: "Noncombustible material: a material that passes ASTM E136." Furthermore, the present definition in the IFGC is no longer consistent with the language contained in ASTM E136 and also addresses only one of the two options included in ASTM E136 for a material to be considered noncombustible. Finally, the "definition" in the IFGC is actually a "requirement" since it requires materials to meet certain criteria to be classified as a noncombustible material. ICC definitions should not contain requirements.

In the area of material regulation, materials that pass ASTM E136 have long been considered to be those that are noncombustible materials, and that concept is consistent with the flawed "definition" in the IFGC.

This proposal recommends including a correct requirement for what materials shall be considered noncombustible materials and it is to comply with the IBC section 703.3.1. A second proposed section states that a requirement for what is a noncombustible material does not mean that clearly noncombustible materials, such as steel, concrete, or masonry, need to be tested, for example to ASTM E136.

Note that ASTM E136 is one of the very few ASTM fire test standards that has acceptance criteria. The acceptance criteria are different from the theoretical definition of a noncombustible material.

If no requirement exists for what is a noncombustible material, experience indicates that some material manufacturers have claimed that their material is noncombustible when it simply exhibits improved fire performance. When searching the internet, multiple web sites offer materials or products that are alleged to be noncombustible when that claim is incorrect. There is often confusion in the public mind between how to consider a material that performs better than typical combustible materials, but is not enough for the material to be

considered noncombustible.

This proposal recommends including a correct requirement for what materials shall be considered noncombustible materials and that is that they need to comply with the IBC section 703.3.1. A second section states that a requirement for what is a noncombustible material does not mean that clearly noncombustible materials, such as steel, concrete, or masonry, need to be tested, for example to ASTM E136.

Equivalent proposals are being submitted to the IFC (by FCAC), the IPC, and the IMC, all of which use noncombustible materials.

Another proposal revises the definitions of "combustible material" in the IMC and IFGC to clarify that the whether a material is or is not noncombustible is the result of a classification. The IBC does not "define" a noncombustible material but contains requirements for such materials.

The language in section 703.3.1 of the IBC reads as follows:*703.3.1 Noncombustible materials. Materials required to be noncombustible shall be tested in accordance with ASTM E136. Alternately, materials required to be noncombustible shall be tested in accordance with ASTM E2652 using the acceptance criteria prescribed by ASTM E136.*

Exception: Materials having a structural base of noncombustible material as determined in accordance with ASTM E136, or with ASTM E2652 using the acceptance criteria prescribed by ASTM E136, with a surfacing of not more than 0.125 inch (3.18 mm) in thickness having a flame spread index not greater than 50 when tested in accordance with ASTM E84 or UL 723 shall be acceptable as noncombustible.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal simply moves a requirement (that is not consistent with the present edition of ASTM E136) into a place where the requirement can be enforced.

FG4-24

Public Hearing Results (CAH1)

Committee Action: **Disapproved**

Committee Reason: The committee voted 10-4 to disapprove of the proposed code language. The committee suggests that a modification is needed for the inconsistency of the code language as submitted. This proposal recommends including a requirement for what materials shall be considered noncombustible materials, and that is that they need to comply with IBC Section 703.3.1. A second section states that a requirement for what is a noncombustible material does not mean that clearly noncombustible materials, such as steel, concrete, or masonry, need to be tested, for example, to ASTM E136.

FG4-24

Individual Consideration Agenda

Comment 1:

IFGC: SECTION 315, 315.1, 315.1.2

Proponents: Marcelo Hirschler, GBH International, GBH International (mmh@gbhint.com) requests As Modified by Committee (AMC2)

Modify as follows:

2024 International Fuel Gas Code

SECTION 315
NONCOMBUSTIBLE BUILDING MATERIALS

315.1 Testing. Noncombustible building materials shall be those materials that comply with Section 703.3.1 of the International Building Code.

Revise as follows:

315.1.2 ~~Inherently noncombustible materials~~ Testing not required. ~~Inherently noncombustible materials, such as concrete and steel,~~ The following building materials shall not be required to be tested to be acceptable as noncombustible building materials.

1. Steel,
2. concrete, containing no combustible aggregates or fibers,
3. masonry, containing no combustible aggregates or fibers,
4. glass (excluding plastic glazing),
5. 5xxx and 6xxx series aluminum alloys.

Reason: The so-called definition contained in the 2024 IFGC is said to be under the jurisdiction of the IMC (in accordance with the [M] in front of it). In fact it is not identical to the definition in the IMC, which reads: "Noncombustible material: a material that passes ASTM E136." Furthermore, the present definition in the IFGC is no longer consistent with the language contained in ASTM E136 and also addresses only one of the two options included in ASTM E136 for a material to be considered noncombustible. Finally, the "definition" in the IFGC is actually a "requirement" since it requires materials to meet certain criteria to be classified as a noncombustible material. ICC definitions should not contain requirements.

Several materials can claim to be inherently noncombustible, in many cases without it being truly valid. For example, any plastic or wood materials are always combustible. This issue is an important consideration for building materials (see several examples in the IFGC where there are requirements that are different depending on whether the materials are or are not noncombustible).

Some materials exist (often insulation materials) where it is not possible to determine without testing (normally to ASTM E136, as required in the IBC) whether they are truly noncombustible. For example, fiberglass insulation materials will always contain some combustible binder to be useful. The material can pass the ASTM E136 test (and be noncombustible) if it contains a small amount of binder but fail the test with larger amount of binder. That can only be determined by testing and is impossible to note visually.

It makes no sense to test steel, concrete or masonry (if they contain no combustible aggregates or fibers; this would have to be certified by the proponent). Therefore, as it has been shown by testing (and common sense) that testing steel, concrete or masonry to ASTM E136 is unnecessary, as they will pass the test they can be excluded from being required to be tested.

However, some new building materials are made with organic (such as foam plastics) components to lower the weight and make them easier to manipulate. In that case, it is unclear whether they are truly noncombustible materials, and they would need to be tested to know the answer for sure. That is why the requirement has been added that they contain no combustible aggregates or fibers.

Test results from at least two testing labs have been able to show that glass (whether ordinary glass or quartz) truly meets the requirements of ASTM E136 and is a noncombustible material. The same is not true for other glazing materials, which are typically plastic and are combustible; they must be excluded.

That brings up the question of aluminum. Typical building materials are, more often than not, alloys of aluminum and other metals. The Aluminum Association has published a report in Building Safety Journal (August 17th, 2020) where they discuss the “noncombustibility” of aluminum. It is of great interest that the 4 aluminum alloys that they tested “were selected for their widespread use in construction”.

Those alloys tested all passed the ASTM E136 test. However, the same report also states that “Aluminum, just like many comparable metals, is not combustible in any general application other than when it is specifically made to be.” That suggests that there may be some aluminum alloys that may or may not be noncombustible. After considerable debate and investigation of test reports, consensus was reached that most of the aluminum alloys used as building materials belong to the 6xxx series of alloys, with less than 1.2% magnesium, and the main ones (such as 6063, 6061, 6005) have all been tested for noncombustibility. In terms of sheet aluminum products, the series 5xxx alloys (such as 5052, 5083, 5005) are often used in construction, with higher levels if magnesium (the highest being 5083, which contains 4.9% magnesium). This product has also been tested and shown to be noncombustible. Therefore, consensus was reached that it is safe to include “5xxx and 6xxx series aluminum alloys” to the list of building materials that do not require testing to be considered noncombustible materials.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This will clarify that a number of materials are clearly noncombustible and will not require additional fire testing. If anything, this comment will decrease costs because less testing for non combustibility will be needed.

Comment (CAH2)# 107

FG11-24 Part I

IFGC: SECTION 202, SECTION 202 (New), 301.3.1 (New), 301.3.2 (New), 301.5, 634.1, 701.1, 705.5.4

Proposed Change as Submitted

Proponents: Andrew Bevis, Chair, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE FUEL GAS CODE COMMITTEE. PART II WILL BE HEARD BY THE IFC CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2024 International Fuel Gas Code

Revise as follows:

FUEL GAS. A natural gas, manufactured gas, liquefied petroleum gas or mixtures of these gases including up to 5-percent hydrogen gas by volume.

Add new definition as follows:

HYDROGEN ADMIXTURE. Fuel gas to which hydrogen is blended or mixed by the fuel supplier or at the point of delivery greater than 5% and less than 95%.

Add new text as follows:

301.3.1 Appliances and equipment listed and labeled for use with hydrogen admixture. Appliances and equipment operating on hydrogen admixtures shall be listed and labeled for operation on the hydrogen admixture limits defined under Section 101.2.1.1.

301.3.2 Piping systems listed and labeled for use with hydrogen admixture. Piping systems and fuel gas system components shall be listed and labeled for the applicable hydrogen admixture limits.

Revise as follows:

301.5 Label information. A permanent factory-applied nameplate(s) shall be affixed to *appliances* on which shall appear in legible lettering, the manufacturer's name or trademark, the model number, serial number and, for *listed appliances*, the seal or mark of the testing agency. A label shall include the hourly rating in British thermal units per hour (Btu/h) (W); the type of fuel gas *approved* for use with the *appliance*; and the minimum *clearance* requirements.

634.1 Installation. The installation of gaseous hydrogen systems shall be in accordance with ~~the applicable requirements~~ Chapter 7 of this code, the *International Fire Code* ~~and~~ the *International Building Code* and NFPA 2.

701.1 Scope. The installation of *gaseous hydrogen systems* shall comply with this chapter, ~~and~~ Chapters 53 and 58 of the International Fire Code and NFPA 2. Compressed gases shall also comply with Chapter 50 of the International Fire Code for general requirements.

705.5.4 Placing equipment in operation. After the *piping* has been placed in operation, all *equipment* shall be purged in accordance with ~~Section 707.2~~ NFPA 2 and then placed in operation, as necessary.

Reason: FUEL GAS

Natural gas utilities are implementing projects to blend gaseous hydrogen into natural gas to reduce their systems and consumers' "carbon footprints." Hydrogen admixtures have raised questions of compatibility of these blends with existing appliances, equipment, and piping systems and components.

Following the submission of a request for interpretation, CSA Group standards Technical Committees were provided access to a range of test data from a variety of sources, and upon careful review and analysis, agree that natural gas containing up to and including 5% of Hydrogen is covered by testing with Test Gas A. The Request for Interpretation (RFI), and the position of the Technical Committees, have

been published here:https://www.csagroup.org/documents/Formal_Interpretations.pdf

As a result, PMG CAC sees no reason to add specifications for such blends in ANSI accredited standards. However, code officials using the ICC Codes would be aided in understanding through the definition of 'fuel gas' that such blends are covered through the revised definition.

HYDROGEN ADMIXTURE

The proposed definition is to address Hydrogen Admixtures in the IFGC. Currently provisions do not exist to address Hydrogen Admixtures and their ranges when introduced to natural gas. Chapter 7 of the IFGC regulates Gaseous Hydrogen Systems which are defined as being 95% or higher GH2. This definition will help address ranges of hydrogen admixtures from 6%-94%.

Section 301.3.1

This is one of several proposals that address the potential for hydrogen admixtures. This specific proposal is designed to clarify that Appliances which operate on hydrogen admixtures are treated the same way all other fuel burning appliances are considered. They need to be listed and labeled for the specific fuel mixture that is supplied. This section is applicable to the IRC Chapter 24 as well as the IFGC.

Section 301.3.2

This is one of several proposals that address the potential for hydrogen admixtures. This specific proposal is designed to clarify that all piping and components which are intended to carry hydrogen admixtures are treated the same way all other piping and system components are considered. They need to be listed and labeled for the specific fuel mixture that is being transported. This section is applicable to the IRC Chapter 24 as well as the IFGC.

Section 301.5This proposal updates the current word fuel to fuel gas to ensure correlation to the revised definition for fuel gas that includes up to 5% hydrogen admixture by volume. All other fuels in accordance with Section 301.1.1 shall be regulated by the International Mechanical Code.

Section [A]101.2.1 scopes gaseous hydrogen systems directly to Chapter 7 which is complete for the for the piping system. A direct link to NFPA 2 has been provided for additional provisions that standard provides for.

Section 701.1

Once the user gets to the IFC references they find pointers to NFPA 2. This provides for a direct linkage which is important for those jurisdictions that do not use the IFC for construction purposes.Section 705.5.4

The IFC relies on NFPA 2 for this requirement and this change provides for consistency, Section 707.2 is proposed to be modified to point to NFPA 2.

This proposal is submitted by the ICC Plumbing Mechanical Gas Code Action Committee (PMGCAC)

PMGCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 PMGCAC has held 26 virtual meetings open to any interested party. In addition, there were several virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the PMGCAC website at PMGCAC.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal is a clarification of different fuel types to address the trend towards blended fuels.

Public Hearing Results (CAH1)

Committee Action: **Disapproved**

Committee Reason: The committee voted 10-0 to disapprove of this proposal. The committee justified the suggested code language as not feasible in its current form. A modification would have supported the approval of this change; however, the proposed code language does not allow for the inference of safety for existing appliances in use.

FG11-24 Part I

Individual Consideration Agenda

Comment 1:

IFGC: SECTION 202, 301.3.1, 301.3.2

Proponents: Andrew Bevis, Chair, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org) requests As Modified by Committee (AMC2)

Modify as follows:

2024 International Fuel Gas Code

FUEL GAS. A natural gas, manufactured gas, liquefied petroleum gas or mixtures of these gases including up to 5-percent hydrogen gas by volume.

HYDROGEN ADMIXTURE.
Fuel gas to which hydrogen is blended or mixed by the fuel supplier or at the point of delivery greater than 5% by volume ~~and less than 95%~~.

301.3.1 Appliances and equipment listed and labeled for use with hydrogen admixture. Appliances and equipment operating on hydrogen admixtures shall be listed and labeled for operation ~~on~~ within the hydrogen admixture limits defined under Section ~~101.2.1.1~~ 101.2.2.1.

Delete without substitution:

~~**301.3.2 Piping systems listed and labeled for use with hydrogen admixture.** Piping systems and fuel gas system components shall be listed and labeled for the applicable hydrogen admixture limits.~~

Reason: This As Modified proposal adds a new definition of fuel gas that includes blends of hydrogen up to and including 5%. It also adds new definition of hydrogen admixtures and includes admixes greater than 5% but not exceeding 20% by volume of hydrogen. In addition, it adds new requirements that appliances burning admixtures shall be listed and labeled for the specific hydrogen admixture gas/hydrogen composition. Lastly, it deletes requirements for piping and components to be listed and labeled for hydrogen admixtures.

It is the intent of this As Modified proposal is to enable Hydrogen Admixtures that do not exceed 20%. Current industry testing is yielding results that do not need to go up to 95% Hydrogen Admixtures but rather limits them to 20% hydrogen, at this time. This suggested modification will align the IFGC with current technology and testing.

Deletion of proposed 301.3.2 is consistent with current IFGC requirements for fuel gas piping and components. In the IFGC Listing and Labeling pertains to the appliance itself in Section 301.3. It then goes on, in Chapter 4, to require specific listings for specific materials (piping, fittings, flow controls, etc…).

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

This proposal is a clarification of different fuel types to address the trend towards blended fuels.

Comment (CAH2)# 326

Comment 2:

IFGC: SECTION 202

Proponents: Ted Williams, Natural Gas Direct, LLC, Natural Gas Direct, LLC (ngdllc@outlook.com) requests As Modified by Committee (AMC2)

Modify as follows:

2024 International Fuel Gas Code

FUEL GAS. A ~~Natural~~ natural gas(including natural gases with up to and including 5 percent hydrogen gas by volume)
, manufactured gas, liquefied petroleum gas or mixtures of these gases.
~~including up to 5 percent hydrogen gas by volume.~~

HYDROGEN ADMIXTURE.
~~Fuel gas to which hydrogen is blended or mixed by the fuel supplier or at the point of delivery greater than 5% and less than 95%.~~

Natural gas into which hydrogen is blended or mixed by the fuel supplier or at the point of delivery to concentrations greater than 5% by volume.

Reason: Testing and analysis of natural gases containing up to and including 5% hydrogen by volume, whether introduced through admixing (i.e., blending) or incidentally introduced to the gas supply from other sources, have shown that physical and combustion properties of these compositional changes to natural gases due to hydrogen do not alter or negatively affect the interchangeability of the baseline natural gas (without hydrogen) from the resulting admixtures. However, natural gas admixtures with concentrations greater than 5% by volume must be specifically identified as “hydrogen admixtures,” which would be consistent with international descriptions of natural gas/hydrogen admixtures. The definition of "fuel gas" is changed editorially to clarify that hydrogen admixing applies to natural gas blending with hydrogen, not the other fuel gases covered by the definition.

Upper bounds for these hydrogen admixtures of natural gas may be defined in terms of physical, combustion, or interchangeability limits, and since these effects on natural gas may become significant with respect to composition and added hydrogen, those limits need to be addressed in IFGC requirements as supported by available research and analysis. The revised definition for “fuel gas” and new definition for “hydrogen admixture,” together with the requirements proposed here, present a coherent way of including natural gas/hydrogen admixture coverage in the IFGC and are technically consistent with changes being proposed in other codes and standards.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These changes to definitions will not affect cost of construction since the additional coverage of hydrogen admixtures do not require differences in specifications or materials from fuel gas systems or appliances and equipment.

Comment (CAH2)# 551
