

IFGC



2021 GROUP A PUBLIC COMMENT AGENDA

SEPTEMBER 21 - 28, 2021
DAVID L. LAWRENCE CONVENTION CENTER
PITTSBURGH, PA

2021 Public Comment Agenda

First Printing

Publication Date: August 2021

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by

International Code Council, Inc.

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PRINTED IN THE USA

FG1-21

Proposed Change as Submitted

Proponents: Julie Furr, Rimkus Consulting Group, Inc., representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (jfurr@rimkus.com); Kelly Cobeen, Wiss Janney Elstner Associates, Inc., representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, Federal Emergency Management Agency, representing Federal Emergency Management Agency (mike.mahoney@fema.dhs.gov)

2021 International Fuel Gas Code

Revise as follows:

301.12 Seismic resistance. Where earthquake loads are applicable in accordance with the *International Building Code*, ~~the supports, anchorage, and bracing~~ shall be designed and installed for the seismic forces in accordance with Chapter 16 of the *International Building Code*. ~~that code.~~

Reason: Summary

This proposal aligns the IFGC with current language in the IPC and IMC and identifies where seismic loads are actually defined. This proposal preserves the ability of one- and two-family dwellings to comply solely with the IRC and does not impose any new requirements for an engineered solution for nonstructural components.

2021 IFGC

This proposal aligns the IFGC with current language in the IPC (Section 308.2) and IMC (Section 301.18) and clarifies which IBC chapter defines seismic load requirements for commercial applications. Proper specification of seismic design loads is consistent with the intent to "prevent failures of nonstructural components or systems, where such failures would endanger life", as stated in the 2020 NEHRP Recommended Provisions Section 1.1.2.

The pointer to IBC Chapter 16 is necessary to ensure users know where to find appropriate seismic criteria. Titled "Structural Design", IBC Chapter 16 is easily overlooked by anyone working with "nonstructural" elements and/or unfamiliar with seismic criteria. IBC Section 1613.1 references ASCE 7, Chapter 13 for specific detailing criteria and formulas utilized to calculate seismic design loads, thus eliminating any ambiguity on seismic requirements for nonstructural components.

Absent this modification, getting to the applicable seismic criteria requires in-depth knowledge of IBC Chapter 16 and its contents. Although the IFGC points back to the IBC for information not explicitly provided, IBC Chapter 28 "Mechanical Systems" points directly back to the IFGC, with no mention of other IBC sections. This becomes a circular reference between the IFGC and IBC without clear direction on seismic design requirements.

2021 IRC

The text in Chapter 24 of the IRC is pulled directly from the IFGC by ICC staff, with appropriate modifications to section references and the removal of commercial-only applications. As such, unlike most I-Code chapters, IRC Chapter 24 cannot be edited by direct proposals.

The IFGC proposal will continue to allow one- and two-family dwellings to comply with the IRC seismic provisions and is not intended to override applicable IRC fuel gas support seismic requirements.

The exception to IFGC Section 101.2 states that one- and two-family dwellings "shall comply with this code [IFGC] or the *International Residential Code*." As such, one- and two-family dwellings are only required to globally comply with either the IFGC or IRC, not both. This provision will remain unchanged by this proposal.

We anticipate the resulting IRC language would read as follows:

- **2021 IRC G2404.8 (301.12) Seismic resistance.** "Where earthquake loads are applicable in accordance with this code, ~~the supports, anchorage, and bracing~~ shall be designed and installed for seismic forces in accordance with this code."

Bibliography: NEHRP Recommended Seismic Provisions for New Buildings and Other Structures, 2020 Edition (FEMA P-2082-1)

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

The proposed wording clarifies the intent of the code, provides specific guidance on where to find seismic design criteria, and does not impose additional requirements that are not already required by applicable design standards.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposed language would require IRC buildings to comply with the IBC earthquake requirements. The IRC already has specific bracing and earthquake requirements without needing IBC chapter 16 and ASCE requirements. (11-0)

FG1-21

Individual Consideration Agenda

Public Comment 1:

Proponents: Julie Furr, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (jfurr@rimkus.com); Michael Mahoney, representing Federal Emergency Management Agency (mike.mahoney@fema.dhs.gov) requests As Submitted

Commenter's Reason: This proposal includes anchorage and bracing in the designated seismic resistance system, which are critical components necessary to provide a functioning system. The resulting IRC language, after being extracted by the ICC staff, would read as follows:

- **2021 IRC G2404.8 (301.12) Seismic resistance.** "Where earthquake loads are applicable in accordance with this code, ~~the supports_~~ anchorage, and bracing shall be designed and installed for seismic forces in accordance with this code."

The Committee disapproved this proposal due to stated concerns that IRC buildings would be required to comply with IBC earthquake requirements and that the proposed language would require design professionals for residential buildings. The Committee's disapproval did not appear to consider the fact that IFGC language is extracted directly into the IRC by ICC staff, who make appropriate modifications to the extracted language to keep the text within the IRC scope.

The proposed seismic reference is identical to the current wind resistance reference in IRC G2404.6 (301.10), where ICC staff has modified the referenced "International Building Code" to "this code".

In Summary:

- This IRC language keeps DOES NOT require compliance with the IBC.
- Design professionals WILL NOT be required as a result of this modification.
- The IRC currently specifies earthquake requirements for supports only.
- The IRC DOES NOT specify requirements for anchorage and bracing.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The proposed language clarifies specific critical components that have always been required to construct a functioning system.

Public Comment# 2285

FG2-21

Proposed Change as Submitted

Proponents: Ted Williams, American Gas Association, representing American Gas Association (twilliams@aga.org)

2021 International Fuel Gas Code

Delete and substitute as follows:

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

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.

Reason: The current text for Section 404.6, adopted into the 2015 edition, prohibits gas piping from penetrating a foundation or basement wall below grade. This text, a change from previous editions of the IFGC, was adopted without substantial or data-based evidence that such penetrations have resulted in a safety concern. Below grade penetrations have a long been permitted and have proven to be a safe installation method. The revised language would reinstate this allowance. At least one U. S. state, Georgia, has amended the IFGC to delete the prohibition and allow below grade penetration as previously permitted and as proposed in this revised text. The State of Georgia code text 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." Additionally, allowing below grade penetrations removes a potential safety hazard introduced by requiring exposed pipe work exterior to the building when it would otherwise not be required and where it might be ruptured upon contact.

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

The return to allowing below grade foundation penetrations will reduce costs by avoiding more expensive piping runs from below grade outside of the foundation to above grade wall penetrations, and return of piping to below grade elevation within the building to serve appliances and equipment. Below grade installation of appliances and equipment is a predominant installation location for buildings with basements.

FG2-21

Public Hearing Results

Committee Action:

As Submitted

Committee Reason: This requirement has been in the code since the 2009 edition and no evidence was provided for the need to change the requirement. (7-4)

FG2-21

Individual Consideration Agenda

Public Comment 1:

Proponents: Guy McMann, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO) (gmcman@jeffco.us) requests Disapprove

Commenter's Reason: This important requirement has been in the code since 2009 and provides protection against gas migration into buildings. Relying on a caulked joint is in-effective as they are subject to deterioration, poor workmanship, expansive soil, etc. This code change is also seriously **flawed** in that it does not address the sealing of the sleeve to the wall, which is critical in completing an installation correctly. Privacy does not permit addresses of properties to be divulged that may have been impacted. The cost of a few fitting is good insurance in gas migration prevention. This requirement needs to remain in the code. Georgia testified in support of this change. What may be good for Georgia may not be good for the rest of the country.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction Because there are no new requirements there are no additional costs.

FG4-21

Proposed Change as Submitted

Proponents: Jonathan Sargeant, representing Omegaflex (jonathan.sargeant@omegaflex.com)

2021 International Fuel Gas Code

Revise as follows:

REGULATOR. A device for controlling and maintaining a uniform supply pressure, either pounds to inches water column (MP regulator) or inches to inches water column (*appliance* regulator).

Delete without substitution:

REGULATOR, MEDIUM-PRESSURE (MP Regulator). A line pressure regulator that reduces gas pressure from the range of greater than 0.5 psig (3.4 kPa) and less than or equal to 5 psig (34.5 kPa) to a lower pressure.

REGULATOR, MEDIUM-PRESSURE (MP Regulator). A line pressure regulator that reduces gas pressure from the range of greater than 0.5 psig (3.4 kPa) and less than or equal to 5 psig (34.5 kPa) to a lower pressure.

Add new definition as follows:

VENT LIMITING DEVICE. A device, installed in the vent port of a pressure regulator, designed to limit the amount of gas escapement in the event of a diaphragm failure within the regulator.

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. A sediment trap shall also be installed upstream of the line pressure regulator and downstream of the shutoff valve serving the regulator. 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.

410.1 Pressure regulators. A line pressure regulator shall be installed where the *appliance* is designed to operate at a lower pressure than the supply pressure. Line gas pressure regulators shall be *listed* as complying with ANSI Z21.80/CSA 6.22. Access shall be provided to pressure regulators. Pressure regulators shall be protected from physical damage. Regulators installed on the exterior of the building shall be *approved* for outdoor installation.

1. The line pressure regulator shall maintain a reduced outlet pressure under lock-up (no-flow) conditions.
2. The capacity of the line pressure regulator, determined by published ratings of its manufacturer, shall be adequate to supply the appliances served.

409.4 MP Line pressure regulator valves. A *listed* shutoff valve shall be installed immediately ahead of each ~~MP~~ line pressure regulator.

410.2 MP-regulators Regulator Installation. MP Line pressure regulators shall comply with the following:

1. ~~The MP line pressure regulator shall be listed 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.~~
42. ~~The MP line pressure regulator shall be provided with access. Where located indoors, the regulator shall be vented to the outdoors or shall be equipped with a vent leak-limiting device, in either case complying with Section 410.3.~~
3. Means shall be provided both upstream and downstream of the line pressure regulator for the connection of a pressure measuring device.
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. The tee fitting is not required where the MP regulator serves an appliance that has a pressure test port on the gas control inlet side and the appliance is located in the same room as the MP regulator.~~
- 7.4. ~~Where connected to rigid piping, a~~ A union shall be installed within 1 foot (304 mm) of either side of the MP line pressure regulator.

Reason: 408.4 is changed to add the requirement, now in 410.2 (5), for a sediment trap upstream of the line pressure regulator.

The term "MP regulator" is deleted and replaced with "line pressure regulator." As used in the IFGC line pressure regulator and a MP regulator are the same thing.

1. 402.7 limits pressure in most buildings to 5 psig. Higher pressure is allowed where pipe is installed in a chase, welded, or in industrial occupancies
2. Line pressure regulators can be rated for up to 10 psig, but 402.7 limits the inlet pressure to 5 psig in most installations.
3. There is no standard for MP regulators. It is believed that line pressure regulators listed to ANSI Z21.80 are being used.

Existing paragraphs 2 and 3 are moved to 410.1 for clarity and 410.2 is reworked to include only regulator installation requirements.

Existing paragraph 7 (now 4) is revised to require a union on all piping not just on rigid piping.

Existing paragraphs 5 and 6 are replaced by paragraph 3 to be less prescriptive while still meeting the intent of the code to enable the measurement of pressure on both sides of the regulator.

Deleted Regulator, Medium Pressure definition - the term is deleted from Section 410.2.

Revised Regulator definition - The definition is revised for consistency with the revised text which eliminates the use of MP. Inlet and outlet pressures of regulators, where needed, should be in the code and not in a definition.

Added Vent Limiting Device definition - To define a term added to section 410.2 that is consistent with the listing standard Z21.80.

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

While the requirement for a union on non-rigid piping systems would slightly increase the installed cost of those piping systems the proponent believes that the less prescriptive requirements for provision of pressure measuring ports will more than offset this increase.

FG4-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: There wasn't enough justification provided for changing the code nor do the changes clarify the code. (11-0)

FG4-21

Individual Consideration Agenda

Public Comment 1:

IFGC: 410.2

Proponents: Jonathan Sargeant, representing Omegaflex (jonathan.sargeant@omegaflex.com); Bob Torbin, representing OmegaFlex (bob.torbin@omegaflex.net) requests As Modified by Public Comment

Replace as follows:

2021 International Fuel Gas Code

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 leak-limiting 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. The tee fitting is not required where the MP regulator serves an *appliance* that has a pressure test port on the gas control inlet side and the *appliance* is located in the same room as the MP regulator. Means shall be provided downstream of the MP regulator for the connection of a pressure measuring instrument. Means for connection of a pressure measuring instrument shall be permitted to be a dedicated test port on a regulator, gas control, or manifold, or a plugged tee fitting or plugged manifold port.~~
7. Where connected to rigid *piping*, a union shall be installed within 1 foot (304 mm) of either side of the MP regulator.

Commenter's Reason: This proposal expands the list of acceptable pressure test ports beyond a simple tee fitting by recognizing that regulator, appliance gas control, and pre-fabricated manifold manufacturers provide integral test ports in their devices that meet the intent of the code. This proposal eliminates unnecessary fittings, joints, and potential leak paths in the gas piping system.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. This proposal will reduce the cost of construction by eliminating unnecessary fittings in the gas piping system.

Public Comment# 2552
