

# 2002 INTERNATIONAL FUEL GAS CODE COMMITTEE

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appliance where such valves are provided with ready access. Such valves shall be permanently identified and shall serve no other equipment. Piping from the shutoff valve to within 3 feet of the appliance connection shall be sized in accordance with Section 402.

**Committee Reason:** Based on proponent's published reason. The modification to Section 409.5 accounts for the impact of the revision to the definition of piping system. Without the revision to Section 409.5, exception, the piping downstream of the remote shutoff valve would not be subject to the sizing requirements of the code, since the piping system would be defined as ending at the appliance shutoff valve.

**Assembly Action:** **No Motion**

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## FG10-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason

**Assembly Action:** **No Motion**

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## FG11-02

**Committee Action:** **Disapproved**

**Committee Reason:** Unvented gas logs are tested to Z21.11.2 as room heaters, not as decorative appliances. There is no such product category as an "unvented decorative appliance". The appliances referred to in the proponent's reason are already covered under the current definition.

**Assembly Action:** **No Motion**

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## FG12-02

**Committee Action:** **Disapproved**

**Committee Reason:** The proposed text should be limited to bathrooms, but instead, would apply to all 5 rooms listed in the main section.

**Assembly Action:** **No Motion**

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**FG13-02** **Withdrawn by Proponent**

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## FG14-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG15-02

**Committee Action:** **Disapproved**

**Committee Reason:** Disapproval is consistent with action taken on FG2-02. The proposed coverage needs to be technically improved before it is suitable for inclusion in the IFGC. The proposed text contains technical flaws and omissions of coverage.

**Assembly Action:** **Approved as Modified**

1. **No change to current Section 305.3 (current text of Section 305.3 remains unchanged)**

2. **Add new text as follows:**

**CHAPTER 7**  
**GASEOUS HYDROGEN SYSTEMS**

**SECTION 701 (IFGC)**  
**GENERAL**

**~~305.4~~ 701.1 Hydrogen Generating and Refueling Operations.**  
(Remainder unchanged)

(Re-number remaining sections, text unchanged)

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## FG16-02

**Committee Action:** **Disapproved**

**Committee Reason:** Requiring such access to attic spaces is too restrictive, creates an economical hardship and could involve the alteration of trusses.

**Assembly Action:** **No Motion**

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## FG17-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG18-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG19-02

**Committee Action:** **Approved as Modified**

**Modify proposal as follows:**

**306.5 Appliances on roofs or elevated structures.** Where appliances requiring access are installed on roofs or elevated structures at a height exceeding 16 feet (4877 mm), such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the appliance's level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope.)

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria.

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have a rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum diameter of 0.75-inch (19 mm) and shall be capable of withstanding a ~~250~~ 300-pound load.
6. Ladders over 30 feet in height shall be provided with offset sections and landings capable of withstanding a load of 100 pounds per square foot.
7. Ladders shall be protected against corrosion by approved means.

Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

**Exception:** This section shall not apply to Group R-3 occupancies.

**Committee Reason:** Based on proponent's published reason. The modification adds coverage for catwalks which could be part of an approved means of access. 300 pound load capacity is more realistic.

**Assembly Action:** **No Motion**

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## FG20-02

**Committee Action:** **Disapproved**

**Committee Reason:** Section 306.5.1 does not apply to fans.

**Assembly Action:** **No Motion**

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## FG21-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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**FG22-02** **Withdrawn by Proponent**

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## FG23-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG24-02

**Committee Action:** **Disapproved**

**Committee Reason:** Utility owned gas meters do not fall under the purview of the IFGC. There are other methods of meter protection besides those prescribed in the IFC. The proposed text could conflict with federal DOT requirements and should apply only to privately owned meters.

**Assembly Action:** **No Motion**

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## FG25-02

**Committee Action:** **Approved as Modified**

**Modify proposal as follows:**

**404.7 Above ground piping outdoors.** All piping installed outdoors shall be elevated not less than 6  $3\frac{1}{2}$  inches (152 mm ) above ground and where installed across roof surfaces, shall be elevated not less than 6  $3\frac{1}{2}$  inches above the roof surface. Piping installed aboveground outdoors and installed across the surface of roofs shall be securely supported and located where it will be protected from physical damage. Where passing through an outside wall, the piping shall also be protected against corrosion by coating or wrapping with an inert material. Where piping is encased in a protective pipe sleeve, the annular space between the piping and the sleeve shall be sealed.

**Committee Reason:** Based on proponent's published reason. The modification recognizes the common practice of supporting gas piping on 4 inch nominal x 4 inch nominal treated lumber (3  $\frac{1}{2}$  x 3  $\frac{1}{2}$  actual).

**Assembly Action:** **No Motion**

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## FG26-02

**Committee Action:** **Disapproved**

**Committee Reason:** Common burial equipment does not bury piping that deep. There is no technical justification for the increased burial depth. PE piping is not as fragile as the proposed change suggests. There is no failure data for the current practice.

**Assembly Action:** **Approved as Submitted-  
Motion Failed**

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**FG27-02** **Withdrawn by Proponent**

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## FG28-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG29-02

**Committee Action:** **Disapproved**

**Committee Reason:** The proposed text would require the installation of the additional shutoff valve in cases where the installer chooses to test the entire system of new and existing piping. Sections 406.1.3, 406.3.2 and 406.3.3 describe conditions where testing against a closed valve is prohibited. The proposed last sentence is redundant with current Section 406.1.2.

**Assembly Action:** **No Motion**

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## FG30-02

**Committee Action:** **Disapproved**

**Committee Reason:** Standing pilots do not present an air contamination problem.

**Assembly Action:** **No Motion**

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## FG31-02

**Committee Action:** **Disapproved**

**Committee Reason:** An interlock requirement for manually operated appliances could result in the field modification of listed appliances. A safety risk could be introduced by the interlock mechanism, itself. The safety risk of an interlock mechanism outweighs the safety risk associated with utilizing the cooking appliances without the exhaust system in operation.

**Assembly Action:** **No Motion**

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## FG32-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG33-02

**Committee Action:** **Disapproved**

**Committee Reason:** The proposed text is addressed in the appliance standards and need not be repeated in the code.

**Assembly Action:** **No Motion**

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## FG34-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG35-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

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## FG36-02

**Committee Action:** **Disapproved**

**Committee Reason:** The action on FG35-02 accomplished the intent of FG36-02.

**Assembly Action:** **No Motion**

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## FG37-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason. Installation of a fire damper would violate the appliance listing.

**Assembly Action:** **No Motion**

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## FG38-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason

**Assembly Action:** **No Motion**

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## FG39-02

**Committee Action:** **Disapproved**

**Committee Reason:** There are inherent dangers in the use of such heaters as the sole source of space heating.

**Assembly Action:** **No Motion**

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## FG40-02

**Committee Action:** **Approved as Modified**

**Modify proposal as follows:**

**632.1 General.** Stationary fuel cell power plants having a power output not exceeding 1,000 kW shall be tested in accordance with ANSI Z21.83 and shall be installed in accordance with the manufacturer's installation instructions ~~and NFPA 853.~~

**Committee Reason:** Based on proponent's published reason. The modification deletes the reference to NFPA 853 because the standard was not provided to the committee or staff for review.

**Assembly Action:** **No Motion**

## FG41-02

**Editorial Note:** Add part 2 as follows:

**2. IFC 3501.1 Scope.** The storage and use of flammable gases shall be in accordance with this chapter. Compressed gases shall also comply with Chapter 30. ~~Gaseous hydrogen systems at consumer sites shall also comply with NFPA 50A.~~

**Exceptions:**

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied petroleum gases and natural gases regulated by Chapter 38.
3. Fuel gas systems and appliances regulated under the *International Fuel Gas Code*.

**3503.1.1 Limitations for indoor storage and use.** Flammable gases shall not be stored or used in Group A, B, E, F, I, M, R or S occupancies.

**Exceptions:**

1. Cylinders not exceeding a capacity of 250 cubic feet (7.08 m<sup>3</sup>) each at NTP used for maintenance purposes, patient care or motor fuel dispensing and operation of equipment.
2. Food service operations in accordance with Section 3803.2.1.7.
3. Hydrogen motor fuel dispensing stations designed and constructed in accordance with Chapter 22.

**Reason Item 2:** The development of hydrogen fueled vehicles and equipment is a rapidly developing area. Making gaseous hydrogen available as motor vehicle fuel will likely require storage of that fuel gas in quantities beyond what is currently allowed by this section. In order to facilitate the continued technological developments, a safe means of handling and storage, the fuel must be manufactured some how. To address this, a new section of code is concurrently proposed to Chapter 22 of the IFC which addresses hydrogen gas refueling stations. It has specific details as to requirements for the safe storage, use and handling of the flammable gas. These details include vehicle protection, exposure set-backs, electrical area classifications and other pertinent requirements. Since specific code language is proposed for both the International Fuel Gas Code for systems using hydrogen as a fuel gas, and the International Fire Code addressing the hazards associated with the refueling stations, the AHC feels the more general language of Chapter 35 and the reference to NFPA 50a now need not apply.

Exception 3 to Section 3503.1.1 is necessary to enable commercial refueling stations designed for that purpose, but also to address remote storage and refueling operations affiliated with buildings designed and constructed in accordance with Section R102.7 of the IRC (i.e., One- and Two-Family Dwellings and Townhomes).

**Add part 3 as follows:**

3. IBC

**TABLE 302.1.1  
INCIDENTAL USE AREAS**

ROOM OR AREA	SEPARATION
Hydrogen cut-off rooms	1-hour fire barriers and floor-ceiling assemblies in Group B, F, H, M, S and U occupancies. 2-hour fire barriers and floor ceiling assemblies in Group A, E, I and R occupancies.

**Reason Item 3: HYDROGEN CUT-OFF ROOM.** Revisions proposed to the IFGC intend to define both HYDROGEN CUT-OFF ROOM and HYDROGEN GENERATING APPLIANCES. The Ad Hoc Committee for Hydrogen Gas finds it necessary to prescribe requirements for the location of HYDROGEN GENERATING APPLIANCES in an around buildings that are similar in format to existing provisions specific to "lighter-than air" gases and fuels. The proposed language is needed to support the work of the AHC as it pertains to hydrogen infrastructure (i.e., service stations, parking garages, loading areas, on-site generation and refueling applications and similar uses). This definition is derived from the IMC and NFPA 50A definition for SPECIAL ROOM, see §3-2.2 of NFPA 50A.

### ITEM 1

**Committee Action:** **Disapproved**

**Committee Reason:** Disapproval is consistent with the action taken on FG2-02, FG15-02 and FG48-02. The IFGC is not the appropriate location for hydrogen coverage. Such coverage belongs in the IFC or a separate code dedicated to hydrogen. The proposed text is not of the quality necessary for inclusion in an ICC code because of the numerous technical flaws, such as lack of coverage for something as fundamental as leak testing of piping.

**Assembly Action:** **Approved as Submitted**

### ITEM 2

**Committee Action:** **Approved as Submitted**

**Committee Reason:** The IFC is the proper location for such coverage.

**Assembly Action:** **No Motion**

### ITEM 3

**Committee Action:** **Disapproved**

**Committee Reason:** Cut-off rooms need to coordinate with the provisions of NFPA 50 A. It is not clear what is being addressed in the proposed text relative to gaseous hydrogen systems.

**Assembly Action:** **No Motion**

## FG42-02

**Committee Action:** **Approved as Submitted**

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** **No Motion**

## FG43-02

**Committee Action:** Approved as Submitted

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** No Motion

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## FG44-02

**Committee Action:** Approved as Submitted

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** No Motion

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## FG45-02

**Committee Action:** Approved as Submitted

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** No Motion

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## FG46-02

**Committee Action:** Approved as Submitted

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** No Motion

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## FG47-02

**Committee Action:** Approved as Submitted

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** No Motion

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## FG48-02

**Committee Action:** Disapproved

**Committee Reason:** Bulk storage coverage belongs in the IFC or a separate hydrogen code. FG2-02 did not include liquid hydrogen within its proposed text. There is no need for a Section 801.1 since the IFC contains all of the coverage. FG2-02 was disapproved therefore, the IFGC does not address liquid hydrogen. Refrigerated liquid hydrogen is beyond the scope of the IFGC.

**Assembly Action:** Approved as Submitted

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## FG49-02

**Committee Action:** Approved as Submitted

**Committee Reason:** Based on proponent's published reason.

**Assembly Action:** No Motion

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