Chapter 1:
Scope and Administration

General Comments

The law of building regulation is grounded on the police power of the state. It is used so that the state may legislate for the general welfare of its citizens. This power enables passage of such laws as a fuel gas code. It is from the police power delegated by the state legislature that local governments are able to enact building regulations. If the state legislature has limited this power in any way, the municipality may not exceed these limitations. Although the municipality may not further delegate its police power (e.g., by delegating the burden of determining code compliance with the building owner, contractor or architect), it may turn over the administration of building regulations to a municipal official, such as a code official, if he or she is given sufficient criteria to clearly establish the basis for decisions concerning whether or not a proposed building, including its fuel gas systems, conforms to the code.

Chapter 1 is largely concerned with maintaining "due process of law" in enforcing the performance criteria contained in the code. Only through careful observation of the administrative provisions can the code official reasonably hope to demonstrate that "equal protection under the law" has been established. Although it is generally assumed that the administrative and enforcement sections of a code are geared toward the code official, this is not entirely true. The provisions also establish the rights and privileges of the registered design professional, the contractor and the building owner. The position of the code official is merely to review the proposed and completed work and determine whether a fuel gas installation conforms to the code requirements. The registered design professional is responsible for the design of a safe, sanitary fuel gas system. The contractor is responsible for installing the system in strict accordance with the plans.

During the course of the construction of a fuel gas system, the code official reviews the activity to verify that the spirit and intent of the law are being met and that the fuel gas system provides adequate protection of public health. As a public servant, the code official enforces the code without bias. Every individual is guaranteed equal enforcement of the code. Furthermore, design professionals, contractors and building owners have the right of due process for any requirement in the code.

Purpose

A fuel gas code, like any other code, is intended to be adopted as a legally enforceable document to safeguard health, safety, property and public welfare. A fuel gas code cannot be effective without adequate provisions for its administration and enforcement. The official charged with the administration and enforcement of fuel gas regulations has a great responsibility, and with this responsibility goes authority. No matter how detailed the fuel gas code may be, the code official must, to some extent, exercise judgment in determining compliance. The code official has the responsibility of establishing that the homes in which the citizens of the community reside and the buildings in which they work are designed and constructed to be reasonably free from hazards associated with the presence and use of fuel gas appliances, appurtenances, fixtures and systems. The code intends to establish a minimum acceptable level of safety.

PART 1—SCOPE AND APPLICATION

SECTION 101 (IFGC)
GENERAL

101.1 Title. These regulations shall be known as the *Fuel Gas Code* of [NAME OF JURISDICTION], hereinafter referred to as "this code."

❖ This section identifies the adopted regulations by inserting the name of the adopting jurisdiction into the code.

101.2 Scope. This code shall apply to the installation of fuel-gas *piping* systems, fuel gas appliances, gaseous hydrogen systems and related accessories in accordance with Sections 101.2.1 through 101.2.5.

Exception: Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures shall comply with the *International Residential Code*.

❖ This section describes the types of fuel gas systems to which the code is intended to apply and specifically lists those systems to which the code does not apply. The applicability of the code spans from the initial design of fuel gas systems, through the installation and construction phases, and into the maintenance of operating systems. Chapter 24 of the *International Residential Code*® (IRC®) covers fuel gas systems and is a duplication of the applicable code text. The provisions of IRC Chapter 24 and the code are identical.

101.2.1 Gaseous hydrogen systems. Gaseous hydrogen systems shall be regulated by Chapter 7.

❖ See general comments for Chapter 7.

101.2.2 Piping systems. These regulations cover *piping* systems for natural gas with an operating pressure of 125 pounds per square inch gauge (psig) (862 kPa gauge) or less, and for LP-gas with an operating pressure of 20 psig (140 kPa gauge) or less, except as provided in Section 402.6. Coverage shall extend from the *point of delivery* to the outlet of the *appliance* shutoff valves. *Piping* system requirements shall include design, materials, components, fabrication, assembly, installation, testing, inspection, operation and maintenance.

❖ The code does not limit the operating pressure of systems, but rather limits the code's coverage of piping systems to those having pressures less than or equal to the stated pressures. Consistent with the definition, piping systems begin at the point of delivery and end at the outlet of the appliance shutoff valves (see Section 101.2.3 and definition of "Piping systems").

101.2.3 Gas appliances. Requirements for gas appliances and related accessories shall include installation, combustion and ventilation air and venting and connections to *piping* systems.

❖ The piping and connectors between the appliance shutoff valves and the appliance served are covered by the code, although the piping and connectors are outside the scope of the definition of "Piping systems."

101.2.4 Systems, appliances and equipment outside the scope. This code shall not apply to the following:

1. Portable LP-gas appliances and *equipment* of all types that is not connected to a fixed fuel *piping* system.
2. Installation of farm appliances and *equipment* such as brooders, dehydrators, dryers and irrigation *equipment*.
3. Raw material (feedstock) applications except for *piping* to special atmosphere generators.
4. Oxygen-fuel gas cutting and welding systems.
5. Industrial gas applications using gases such as acetylene and acetylenic compounds, hydrogen, ammonia, carbon monoxide, oxygen and nitrogen.
6. Petroleum refineries, pipeline compressor or pumping stations, loading terminals, compounding plants, refinery tank farms and natural gas processing plants.
7. Integrated chemical plants or portions of such plants where flammable or combustible liquids or gases are produced by, or used in, chemical reactions.
8. LP-gas installations at utility gas plants.
9. Liquefied natural gas (LNG) installations.
10. Fuel gas *piping* in power and atomic energy plants.
11. Proprietary items of *equipment*, apparatus or instruments such as gas-generating sets, compressors and calorimeters.
12. LP-gas *equipment* for vaporization, gas mixing and gas manufacturing.
13. Temporary LP-gas *piping* for buildings under construction or renovation that is not to become part of the permanent *piping* system.
14. Installation of LP-gas systems for railroad switch heating.
15. Installation of hydrogen gas, LP-gas and compressed natural gas (CNG) systems on vehicles.
16. Except as provided in Section 401.1.1, gas *piping*, meters, gas pressure regulators and other appurtenances used by the serving gas supplier in the distribution of gas, other than undiluted LP-gas.
17. Building design and construction, except as specified herein.
18. *Piping* systems for mixtures of gas and air within the flammable range with an operating pressure greater than 10 psig (69 kPa gauge).
19. Portable fuel cell appliances that are neither connected to a fixed *piping* system nor interconnected to a power grid.

❖ This section lists the specific installations and equipment that the code does not intend to regulate. Item 19 relates to Chapter 7 and addresses portable fuel cell appliances as defined in Chapter 2.

101.2.5 Other fuels. The requirements for the design, installation, maintenance, *alteration* and inspection of mechanical systems operating with fuels other than fuel gas shall be regulated by the *International Mechanical Code*.

❖ This section simply defers the coverage of all equipment other than gas-fired equipment to the *International Mechanical Code*® (IMC®). The IRC also regulates the installation of residential equipment that is not gas fired.

101.3 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

❖ This section certifies that the appendices are not part of the code unless specifically included in the adopting ordinance of the jurisdiction. Otherwise, the appendices are not intended to be enforceable.

101.4 Intent. The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of fuel gas systems.

❖ The intent of the code is to set forth requirements that establish the minimum acceptable level to safeguard life or limb, health, property and public welfare. The intent becomes important in the application of such sections as Sections 102, 104.2, 105.2 and 108, as well as any enforcement-oriented interpretive action or judgement. Like any code, the written text is subject to interpretation. Interpretations should not be affected by economics or the potential impact on any party. The only consideration should be protection of the public health, safety and welfare.

101.5 Severability. If a section, subsection, sentence, clause or phrase of this code is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this code.

❖ Once the code is adopted, only a court can set aside any provisions of the code. This is essential to safeguard the application of the code text if a provision of the code is declared illegal or unconstitutional. This section would preserve the legislative action that established the legal provisions.

SECTION 102 (IFGC) APPLICABILITY

102.1 General. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. Where, in a specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

❖ The scope of the code as described in Section 101 is referenced in this section. The most restrictive code requirement is to apply where different requirements may be specified in the code for a specific installation. The code is designed to regulate new construction and new work and is not intended to be applied retroactively to existing buildings except where existing fuel-gas-related systems are specifically addressed in this section and Section 108.

102.2 Existing installations. Except as otherwise provided for in this chapter, a provision in this code shall not require the removal, *alteration* or abandonment of, nor prevent the continued utilization and maintenance of, existing installations lawfully in existence at the time of the adoption of this code.

❖ Existing installations are generally considered to be "grandfathered" with code adoption if the system meets a minimum level of safety. Frequently the criteria for this level are the regulations (or code) under which the existing building was originally constructed. If there are no previous code criteria to apply, the code official is to apply those provisions of the code that are reasonably applicable to existing buildings. A specific level of safety is dictated by provisions dealing with hazard abatement in existing buildings and maintenance provisions as contained in this code, the *International Property Maintenance Code*® (IPMC®) and the *International Fire Code*® (IFC®).

[EB] 102.2.1 Existing buildings. Additions, alterations, renovations or repairs related to building or structural issues shall be regulated by the *International Building Code*.

❖ This section states that the *International Building Code*® (IBC®) regulates construction related to building or structural issues.

102.3 Maintenance. Installations, both existing and new, and parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe condition. Devices or safeguards which are required by this code shall be maintained in compliance with the code edition under which they were installed. The owner or the owner's designated agent shall be responsible for maintenance of installations. To determine compliance with this provision, the code official shall have the authority to require an installation to be reinspected.

❖ Fuel gas systems and equipment are subject to deterioration resulting from aging, wear, accumulation of dirt and debris, corrosion and other factors. Maintenance is necessary to keep these systems and equipment in proper operating condition. Required safety devices and controls must be maintained to continue providing the protection that they afford. Existing equipment and systems could be equipped with safety devices or other measures that were necessary because of the nature of the equipment, and such safeguards may have been required by a code that predates the current code. All such safeguards required by previous or present codes must be maintained for the life of the equipment or system served by those safeguards.

102.4 Additions, alterations or repairs. Additions, alterations, renovations or repairs to installations shall conform to that required for new installations without requiring the existing installation to comply with all of the requirements of this code. Additions, alterations or repairs shall not cause an existing installation to become unsafe, hazardous or overloaded.

Minor additions, alterations, renovations and repairs to existing installations shall meet the provisions for new construction, unless such work is done in the same manner and arrangement as was in the existing system, is not hazardous and is *approved*.

❖ Simply stated, new work must comply with the current requirements for new work. Any alteration or addition to an existing system involves some extent of new work, and such new work is subject to the requirements of the code. Additions and alterations must not cause an existing system to be any less in compliance with the code than it was before the changes.

102.5 Change in occupancy. It shall be unlawful to make a change in the *occupancy* of a structure which will subject the structure to the special provisions of this code applicable to the new *occupancy* without approval. The code official shall certify that such structure meets the intent of the provisions of law governing building construction for the proposed new *occupancy* and that such change of *occupancy* does not result in any hazard to the public health, safety or welfare.

❖ When a building undergoes a change of occupancy, the fuel gas systems must be evaluated to determine what effect the change of occupancy has on them. If an existing system serves an occupancy that is different from the occupancy it served when the code went into effect, the fuel gas system must comply with the applicable code requirements for a system serving the newer occupancy. Depending on the nature of the previous occupancy, changing a building's occupancy classification could result in a change to the fuel gas system. For example, if a mercantile building is converted to a restaurant, additional fuel gas piping system capacity and modifications may be required.