



**Fort Collins Amendments to the
2009 International Fuel Gas Code**

**Bold underlined texts represents Green Code Amendments which become effective
January 1, 2012**

Municipal Code Sec. 5-111. Adoption of standards for fuel gas piping, equipment and accessories amendments and deletions.

The 2009 *INTERNATIONAL FUEL GAS CODE* adopted herein is hereby amended in the following respects:

Section 101.1 Title is amended to read as follows:

101.1 Title. These regulations shall be known as the *Fuel Gas Code* of the City of Fort Collins, hereinafter referred to as “this code.

Section 102.8 reference codes and standards, is amended to read as follows:

Section 102.8 reference codes and standards The codes and standards referenced herein shall be those that are listed in Section 101.4, entitled ‘Referenced codes’ of the adopted *International Building Code* and shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

Section 103 Department of inspection is amended in its entirety to read as follows:

SECTION 103 – CODE ADMINISTRATION

103.1 Entity charged with code administration shall be as determined in accordance with Section 103, entitled ‘Code Administration’ of the adopted *International Building Code.*

Section 106.6 Fees is amended in its entirety to read as follows:

SECTION 106.6 FEES

106.6 Payment of fees. All items relating to fees shall be as specified and in accordance with Section 109, entitled ‘Fees’ of the adopted *International Building Code.*

Section 108.4 Violation penalties, is amended to read as follows:

108.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor subject to the penalties and fines pursuant to Section 1-15 of the Code of the City, punishable by a fine of not more than \$1,000, or by imprisonment not exceeding 180 days, or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

Section 108.4.1 Work commencing before permit issuance is hereby added to read as follows:

108.4.1 Work commencing before permit issuance. In addition to penalties set forth in 108.4, any person or firm who, before obtaining the necessary permit(s), commences any construction of, or work on, a building, structure, electrical, gas, mechanical or plumbing system that is not otherwise exempted from obtaining a permit, shall be subject to a processing and penalty fee in addition to the standard prescribed permit fee. Such additional fee shall be equal to the permit fee, except that such fee shall not be less than \$50 nor more than \$1,000 for the first such violation. A person or firm committing the same such violation repeatedly is subject to processing and penalty fees equal to double the amount of the permit fee or double the amount of the preceding violation, whichever is greater, for every same such subsequent violation committed thereafter within any 180-day period. The foregoing fees may be appealed to the City Manager pursuant to Chapter 2, Article VI of the Code of the City.

Section 303.3 Prohibited locations is amended by deleting Exceptions "3" and "4"

~~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 bath room 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.~~

Section 303.3 Prohibited locations is further amended to read as follows:

303.3 Prohibited locations. For new multi-family buildings and new appliances within additions to multi-family buildings, natural draft appliances shall not be located within the building thermal envelope or be located in a space where the only access to that space is from sleeping rooms, bathrooms, toilet rooms, storage closets, or surgical rooms.

Exceptions:

- 1. Where natural draft appliances are located in an enclosed mechanical**

following conditions are met:

- a. **The access to the mechanical room is through a self-closing, gasketed door.**
 - b. **No other exhaust appliances are located within the mechanical room.**
 - c. **The mechanical room is provided with outside combustion air as specified in this code.**
 - d. **The isolation of the mechanical room from adjoining conditioned areas is verified with a differential-pressure test performed by an *approved agency*.**
 - e. **Such *natural draft appliances* pass a combustion safety test under worst-case depressurization conditions conducted by an *approved agency*, in accordance with Building Performance Institute (BPI) Technical Standards for the Heating Professional.**
 - f. **Documentation of satisfactory testing results are submitted to the Building Official prior to approval.**
2. ***Natural draft* fireplaces that pass a combustion safety test under worst-case depressurization conditions conducted by an *approved agency*, in accordance with the Building Performance Institute (BPI) Technical Standards for the Heating Professional, prior to approval.**

Section 304.11 Combustion air ducts item #1 exception is amended to read as follows:

EXCEPTION:

Where the installation of galvanized steel ducts is not practical due to existing finish materials within dwelling units that are undergoing alteration or reconstruction, unobstructed stud and joist spaces shall not be prohibited from conveying combustion air, provided that not more than one required fireblock is removed.

Section 304.11 Combustion air ducts, is amended by adding item #9 to read as follows:

9. All combustion air openings or ducts shall be readily identifiable with an approved label or by other means warning persons that obstruction of such openings or ducts may cause fuel-burning equipment to release combustion products and dangerous levels of carbon monoxide into the building.

Section 305.1 General is hereby amended by adding the following paragraphs:

Where *natural draft appliances* are replaced in existing *multi-family buildings*, all appliances with a *draft hood* shall pass a combustion safety test under natural conditions, conducted by an *approved agency* in accordance with the Building

Such appliances shall also be combustion safety tested under worst-case depressurization conditions, by an approved agency in accordance with Building Performance Institute (BPI) Technical Standards for the Heating Professional. Should an appliance not pass such test, a disclosure form reporting the test results shall be provided to the a dwelling unit owner. A copy of such disclosure form, signed by the homeowner, shall be submitted to the Building Official prior to.

Section 305.3 Elevation of ignition source is amended to read as follows:

305.3 Elevation of ignition source. Electrical devices, equipment and appliances having an ignition source shall be elevated such that the source of ignition is not less than 18 inches (457 mm) above the floor in hazardous locations and public garages, private garages, repair garages, motor fuel-dispensing facilities and parking garages. For the purpose of this section, rooms or spaces that are not part of the living space of a dwelling unit and that communicate directly with a private garage through openings shall be considered to be part of the private garage.

Section 305.3 Elevation of ignition source is amended by deleting the exception:

~~**Exception:** Elevation of the ignition source is not required for appliances that are listed as flammable vapor ignition resistant.~~

Section 308.4.6 Clearance from supply ducts is amended to read as follows:

308.4.6 Clearance from supply ducts. Central-heating furnaces where the bonnet temperature exceeds 150°F (68°C), shall have the clearance from supply ducts within 3 feet (914 mm) of the furnace plenum be not less than that specified from the furnace plenum. No clearance is necessary beyond this distance.

Section 404.7 Above-ground piping outdoors is amended to read as follows:

404.7 Above-ground piping outdoors. All piping installed outdoors shall be elevated not less than 6 inches (152 mm) above ground and where installed across roof surfaces, shall be elevated not less than 3½ inches (89 mm) above the roof surface. Piping installed above ground, 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.

Section 404.10 Minimum burial depth is amended to read as follows:

404.10 Minimum burial depth. Underground piping systems shall be installed a minimum depth of 18 inches (457 mm) below grade, except as provided for in Section 404.10.1.

Section 404.10.1 Individual outside appliances, is amended to read as follows:

404.10.1 Individual outside appliances. Individual lines to outside lights, grills or other appliances shall be installed a minimum of 18 inches (457 mm) below finished grade.

EXCEPTION:

Approved materials installed a minimum of 6 inches (152 mm) below finished grade when covered with a concrete slab 4 inches (102 mm) in minimum thickness.

Section 404.13 Outlet closure is amended to read as follows:

404.13 Outlet closures. Gas outlets and fittings which allow for future gas line expansion that do not connect to appliances shall be provided with an approved gas shutoff valve with the end capped gas-tight.

EXCEPTION:

1. Listed and labeled flush-mounted-type quick disconnect devices and listed and labeled gas convenience outlets shall be installed in accordance with the manufacturer's installation instructions.

2. Drip/dirt legs installed at the floor level at appliances.

Section 405.1 General is amended to read as follows:

405.1 General. Changes in direction of rigid metallic pipe specified in Section 403.4 shall be made only by the use of fittings and factory bends or field bends.

Section 405.2 Metallic pipe is deleted in its entirety:

~~405.2 Metallic pipe. Metallic pipe bends shall comply with the following:~~

~~1. Bends shall be made only with bending tools and procedures intended for that purpose.~~

~~2. All bends shall be smooth and free from buckling, cracks or other evidence of mechanical damage.~~

~~3. The longitudinal weld of the pipe shall be near the neutral axis of the bend.~~

~~4. Pipe shall not be bent through an arc of more than 90 degrees (1.6 rad).~~

~~5. The inside radius of a bend shall be not less than six times the outside diameter of the pipe.~~

Section 406.4.1 Test pressure is hereby amended to read as follows:

406.4.1 Test pressure. The test pressure to be used shall be not less than one and one-half times the proposed maximum working pressure, but not less than 10 psig (67 kPa gauge) irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge),

the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.

Section 409.5.2 Vented decorative appliances and room heaters is amended to read as follows:

409.5.2 Vented decorative appliances and room heaters. Shutoff valves for vented decorative appliances, room heaters and decorative appliances for installation in vented fireplaces shall be permitted to be installed in an area remote from the appliances where such valves are provided with ready access. Such valves shall be permanently identified and shall serve no other appliance. Remote valves shall be operable on the same floor as the appliance served and within 12 feet (3.66 m) of the appliance as measured along the floor line. The piping from the shutoff valve to within 6 feet (1829 mm) of the appliance shall be designed, sized and installed in accordance with Sections 401 through 408.

Section 410.3 Venting of regulators is amended to read as follows:

410.3 Venting of regulators. Pressure regulators that require a vent shall be vented directly to the outdoors. The vent shall be designed to prevent the entry of insects, water and foreign objects. Vents shall not terminate within 3 feet (0.916 m) of openings into the building.

Section 501.8 Appliances not required to be vented is amended by deleting items #8 and #10:

~~8. Room heaters listed for unvented use.~~

~~10. Other appliances listed for unvented use and not provided with flue collars.~~

Section 503.2.2 Well-ventilated spaces, is hereby deleted.

~~**503.2.2 Well-ventilated spaces.** Where located in a large and well-ventilated space, industrial appliances shall be permitted to be operated by discharging the flue gases directly into the space.~~

Section 503.5.6.1 Chimney lining is hereby amended by deleting the exception:

503.5.6.1 Chimney lining. Chimneys shall be lined in accordance with NFPA 211.

~~**Exception:** Where an existing chimney complies with Sections 503.5.6 through 503.5.6.3 and its sizing is in accordance with Section 503.5.5, its continued use shall be allowed where the appliance vented by such chimney is replaced by an appliance of similar type, input rating and efficiency.~~

Section 614 Exhaust installation is amended to read as follows:

614.4 Exhaust installation. Exhaust ducts for clothes dryers shall terminate on the outside of the building and shall be equipped with a backdraft damper. Dryer exhaust duct terminations shall not be located within 36 inches (914 mm) of exterior openings into conditioned spaces, crawl spaces and attics. Screens shall not be installed at the duct termination. Ducts shall not be connected or installed with sheet metal screws or other fasteners that will obstruct the flow. Clothes dryer exhaust ducts shall not be connected to a vent connector, vent or chimney. Clothes dryer exhaust ducts shall not extend into or through ducts or plenums.

Section 614.6.5.2 Manufacturer's instructions is deleted in its entirety:

~~**Section 614.6.5.2 Manufacturer's instructions** The maximum length of the exhaust duct shall be determined by the dryer manufacturer's installation instructions. The code official shall be provided with a copy of the installation instructions for the make and model of the dryer. Where the exhaust duct is to be concealed, the installation instructions shall be provided to the code official prior to the concealment inspection. In the absence of fitting equivalent length calculations from the clothes dryer manufacturer, Table 614.6.5.1 shall be utilized.~~

Section 621 Unvented room heaters, is deleted in its entirety.

~~SECTION 621 (IFGC) UNVENTED ROOM HEATERS~~

~~**621.1 General.** Unvented room heaters shall be tested in accordance with ANSI Z21.11.2 and shall be installed in accordance with the conditions of the listing and the manufacturer's installation instructions. Unvented room heaters utilizing fuels other than fuel gas shall be regulated by the *International Mechanical Code*.~~

~~**621.2 Prohibited use.** One or more unvented room heaters shall not be used as the sole source of comfort heating in a *dwelling unit*.~~

~~**621.3 Input rating.** Unvented room heaters shall not have an input rating in excess of 40,000 Btu/h (11.7 kW).~~

~~**621.4 Prohibited locations.** Unvented room heaters shall not be installed within occupancies in Groups A, E and I. The location of unvented room heaters shall also comply with Section 303.3.~~

~~**621.5 Room or space volume.** The aggregate input rating of all unvented appliances installed in a room or space shall not exceed 20 Btu/h per cubic foot (207 W/m³) of volume of such room or space. Where the room or space in which the appliances are installed is directly connected to another room or space by a doorway, archway or other opening of comparable size that cannot be closed, the volume of such adjacent room or space shall be permitted to be included in the calculations.~~

~~621.6 Oxygen-depletion safety system. Unvented room heaters shall be equipped with an oxygen depletion sensitive safety shutoff system. The system shall shut off the gas supply to the main and pilot burners when the oxygen in the surrounding atmosphere is depleted to the percent concentration specified by the manufacturer, but not lower than 18 percent. The system shall not incorporate field adjustment means capable of changing the set point at which the system acts to shut off the gas supply to the room heater.~~

~~621.7 Unvented decorative room heaters. An unvented decorative room heater shall not be installed in a factory built fireplace unless the fireplace system has been specifically tested, listed and labeled for such use in accordance with UL 127.~~

~~621.7.1 Ventless firebox enclosures. Ventless firebox enclosures used with unvented decorative room heaters shall be listed as complying with ANSI Z21.91.~~

Section 623.3.1 Gas oven ventilation is added to read as follows:

623.3.1 Gas oven ventilation. Residential kitchens with gas ovens shall be supplied with an exhaust system vented to the outside. Ducts serving kitchen exhaust systems shall not terminate in an attic or crawl space or areas inside the building and shall not induce or create a negative pressure in excess of negative 3 Pa or adversely affect gravity-vented appliances.

Section 630.3 Combustion and ventilation air is amended to read as follows:

630.3 (IFGS) Combustion and ventilation air. Where unvented infrared heaters are installed, natural or mechanical means shall provide outdoor ventilation air at a rate of not less than 4 cfm per 1,000 Btu/h (0.38 m³/min/kW) of the aggregate input rating of all such heaters installed in the space. Exhaust openings for removing flue products shall be above the level of the heaters.

Chapter 8 REFERENCED STANDARDS is hereby amended by adding the following additional referenced standard in alphabetical sequence:

BPI - Building Performance Institute

107 Hermes Road, Suite 110

Malta, NY 12020

BPI 104 Envelope Professional Standard

Referenced in Amended 09 IFGC Section 303.3 Prohibited locations and Section 305.1 General

BPI Technical Standards for the Heating Professional

Referenced in Amended 09 IFGC Section 303.3 Prohibited locations and Section 305.1 General