Paul,

I would like to add the following to the National Fuel Gas Code committee meeting in November.

The NFPA 58 committee is proposing to revise their definition of “Line Pressure Regulator”, which is also defined in NFPA 54. The 2 definitions in the current editions are different.

**Current NFPA 58 Definition:**

3.3.65.6 Line Pressure Regulator. A pressure regulator in accordance with ANSI Z21.80/CSA 6.22, Standard for Line Pressure Regulators, with no integral overpressure protection device for LP-Gas vapor service designed for installation inside a building to reduce a nominal 2 psig (14 kPag) inlet pressure to 14 in. w.c. (4.0 kPa) or less.

**NFPA 58 Proposed Revised Definition:**

3.3.65.6 Line Pressure Regulator. A pressure regulator with no integral overpressure protection device for LP-Gas gas vapor service designed for installation inside a building to reduce a nominal inlet pressure.

**NFPA 54 Definition:**

3.3.84.3 Line Pressure Regulator. A pressure regulator placed in a gas line between the service regulator and the appliance regulator.

As I am a member of both committees, the NFPA 58 committee requested that I bring this to your attention in the hope that the 2 definitions can be harmonized. I offer no recommendations on the subject, but note that both codes define the same regulator.

NFPA 58 held their First Draft Meeting in October, but did not complete its work and will continue the meeting in December. I will report any recommendations to the NFPA 58 committee at their December meeting.

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3.3.84 Regulator.

3.3.84.1 Gas Appliance Pressure Regulator. A pressure regulator for controlling pressure to the appliance manifold.

3.3.84.2 Draft Regulator. A device that functions to maintain a desired draft in the appliance by automatically reducing the draft to the desired value.

3.3.84.2.1 Barometric Draft Regulator. A balanced damper device attached to a chimney, vent connector, breeching, or flue gas manifold to control chimney draft.

3.3.84.3 Line Pressure Regulator. A pressure regulator placed in a gas line between the service regulator and the appliance regulator.

3.3.84.4 Monitoring Regulator. A pressure regulator set in series with another pressure regulator for the purpose of automatically taking over in an emergency the control of the pressure downstream of the regulator in case that pressure tends to exceed a set maximum.

3.3.84.5 Pressure Regulator. Equipment placed in a gas line for reducing, controlling, and maintaining the pressure in that portion of the piping system downstream of the equipment.

3.3.84.6 Series Regulator. A pressure regulator in series with one or more other pressure regulators.

3.3.84.7 Service Regulator. A pressure regulator installed by the serving gas supplier to reduce and limit the service line gas pressure to delivery pressure.

3.3.84.8 Vent. The opening in the atmospheric side of the regulator housing permitting the in and out movement of air to compensate for the movement of the regulator diaphragm.

3.3.85 Relief Opening. The opening provided in a draft hood to permit the ready escape to the atmosphere of the flue products from the draft hood in the event of no draft, backdraft, or stoppage beyond the draft hood and to permit inspiration of air into the draft hood in the event of a strong chimney updraft.

3.3.86 Safety Blowout (Backfire Preventer). A protective device located in the discharge piping of large mixing machines, incorporating a bursting disc for excessive pressure release, means for stopping a flame front, and an electric switch or other release mechanism for actuating a built-in or separate safety shutoff.

3.3.87 Service Head Adapter. A transition fitting for use with plastic piping (which is encased in non-pressure-carrying metal pipe) that connects the metal pipe casing and plastic pipe and tubing to the remainder of the piping system.

3.3.88 Service Meter Assembly. The piping and fittings installed by the serving gas supplier to connect the inlet side of the meter to the gas service and to connect the outlet side of the meter to the customer’s house or yard piping.

3.3.89 Service Regulator. See 3.3.84.5, Pressure Regulator; and 3.3.88.7, Service Regulator.

3.3.90 Shutoff. See 3.3.99.1 Appliance Shutoff Valve and 3.3.104.6 Service Shutoff Valve.

3.3.91 Specific Gravity. As applied to gas, the ratio of the weight of a given volume to that of the same volume of air, both measured under the same conditions.

3.3.92 Steam Cooker. See 3.3.5.5.5 Gas Steam Cooker.

3.3.93 Steam Generator. See 3.3.5.5.6 Gas Steam Generator.

3.3.94 Stress. The resultant internal force that resists change in the size or shape of a body acted on by external forces. In this code, stress is often used as being synonymous with unit stress, which is the stress per unit area (psi).

3.3.94.1 Hoop Stress. The stress in a pipe wall, acting circumferentially in a plane perpendicular to the longitudinal axis of the pipe and produced by the pressure of the fluid in the pipe.

3.3.95 System.

3.3.95.1 Central Premix System. A system that distributes flammable gas-air mixtures to two or more remote stations.

3.3.95.2 Fan-Assisted Combustion System. An appliance equipped with an integral mechanical means to either draw or force products of combustion through the combustion chamber or heat exchanger.

3.3.95.3 Hybrid Pressure System. A piping system in which the pressure at the point of delivery is reduced by one or more line pressure regulators prior to the appliance connection.

3.3.95.4 Mechanical Exhaust System. Equipment installed in and made a part of the vent, to provide the required flow of gases through the vent.

3.3.95.5 Piping System. All pipe, tubing, valves, and fittings from the point of delivery to the outlets of the appliance shutoff valves.

3.3.95.6* Venting System. A continuous open
Paul,

I have had yet another question about propane and natural gas in the same building. Just a thought: Should this be addressed in NFPA 54 as allowable so long as the lines area clearly marked and the piping is kept completely separate? Or should we keep the code silent on the issue, thus allowing the practice?

A

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5.3 Interconnections Between Gas Piping Systems.

5.3.1 Interconnections Supplying Separate Users. Where two or more meters, or two or more service regulators where meters are not provided, are located on the same premises and supply separate users, the gas piping systems shall not be interconnected on the outlet side of the meters or service regulators.

5.3.2 Interconnections for Stand-By Fuels.

5.3.2.1 Where a supplementary gas for standby use is connected downstream from a meter or a service regulator where a meter is not provided, equipment to prevent backflow shall be installed.

5.3.2.2 A three-way valve installed to admit the standby supply and at the same time shut off the regular supply shall be permitted to be used for this purpose.

5.4 Sizing of Gas Piping Systems.

5.4.1 General Considerations. Gas piping systems shall be of such size and so installed as to provide a supply of gas sufficient to meet the maximum demand and supply gas to each appliance inlet at not less than the minimum supply pressure required by the appliance.

5.4.2 Maximum Gas Demand.

5.4.2.1 The volumetric flow rate of gas to be provided shall be the sum of the maximum input of the appliances served.

5.4.2.2 The volumetric flow rate of gas to be provided shall be adjusted for altitude where the installation is above 2,000 ft (600 m).

5.4.2.3 The total connected hourly load shall be used as the basis for piping sizing, assuming all appliances are operating at full capacity simultaneously.

Exception. Sizing shall be permitted to be based upon established load diversity factors.

5.4.3 Sizing Methods. Gas piping shall be sized in accordance with one of the following:

1. Pipe sizing tables or sizing equations in Chapter 6
2. Other approved engineering methods acceptable to the authority having jurisdiction
3. Sizing tables included in a listed piping system manufacturer's installation instructions

5.4.4 Allowable Pressure Drop. The design pressure loss in any piping system under maximum probable flow conditions, from the point of delivery to the inlet connection of the appliance, shall be such that the supply pressure at the appliance is greater than or equal to the minimum pressure required by the appliance.

5.5 Piping System Operating Pressure Limitations.

5.5.1 Maximum Design Operating Pressure. The maximum design operating pressure for piping systems located inside buildings shall not exceed 5 psi (34 kPa) unless one or more of the following conditions are met:

1. The piping system is welded
2. The piping is located in a ventilated chase or otherwise enclosed for protection against accidental gas accumulation
3. The piping is located inside buildings or separate areas of buildings used exclusively for one of the following:
   a. Industrial processing or heating
   b. Research
   c. Warehousing
   d. Boiler or mechanical rooms
4. The piping is a temporary installation for buildings under construction
5. The piping serves appliances or equipment used for agricultural purposes.
6. The piping system is an LP-Gas piping system with a design operating pressure greater than 20 psi (140 kPa) and complies with NFPA 58, Liquefied Petroleum Gas Code.

5.5.2 Liquefied Petroleum Gas Systems. LP-Gas systems designed to operate below -5°F (-21°C) or with butane or a propane-butane mix shall be designed to either accommodate liquid LP-Gas or prevent LP-Gas vapor from condensing back into a liquid.

5.6 Acceptable Piping Materials and Joining Methods.

5.6.1 General.

5.6.1.1 Acceptable Materials. Materials used for piping systems shall comply with the requirements of this chapter or shall be acceptable to the authority having jurisdiction.

5.6.1.2 Used Materials. Pipe, fittings, valves, or other materials shall not be used again unless they are free of foreign materials and have been ascertained to be adequate for the service intended.