

Appendix E Meters and Gas Service Piping

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E.1 General

This appendix addresses the requirements for meters and service piping, underground or aboveground, as the piping enters the building. Service piping includes fuel-gas piping, valves, and fittings upstream of the point of delivery. Service piping may include piping supplied by the gas service utility.

E.2 Gas Regulator and Gas Regulator Vent Outlets

Gas meter piping supplying gas to a building at a pressure in excess of $\frac{1}{2}$ psig (3.4 kPa gauge) shall be provided with a regulator that will reduce the pressure of the gas to $\frac{1}{2}$ psig (3.4 kPa gauge) or less prior to entering the gas distribution piping in the building, except where the use of higher pressure is permitted. Where gas distribution pressure in excess of $\frac{1}{2}$ psig (3.4 kPa gauge) is permitted, it shall be regulated not to exceed the maximum pressure level as permitted by the code or the commissioner.

E.2.1

Inside gas meterpiping operating at a pressure in excess of 15 psig (103 kPa gauge) shall comply with the following:

1. Where such piping is greater than 4 inches (102 mm) in diameter, the meter piping shall be installed in a properly ventilated meter room of 3-hour fire-rated construction.
2. The maximum distance from the service line valve to the regulator shall be limited as follows:

SERVICE LINE <u>VALVE</u> SIZE	MAXIMUM DISTANCE (LINEAR FEET OF <u>PIPE</u>)
Up through 2-inch (51 mm) <u>pipe</u> size	4 feet (1219 mm)
Over 2-inch (51 mm) through 4-inch (102 mm) <u>pipe</u> size	8 feet (2438 mm)
Over 4-inch (102 mm) through 8-inch (203 mm) <u>pipe</u> size	15 feet (4572 mm)
10-inch (254 mm) <u>pipe</u> size and larger	20 feet (6096 mm)

3. Where these maximum distances cannot be met, the following shall be required:

FOOTAGE (LINEAR FEET OF PIPE) IN EXCESS OF ABOVE REQUIREMENTS

ADDITIONAL REQUIREMENTS

Up to 5 feet (1534 mm)	The <u>meter</u> room shall have 3 hour fire-rating construction and adequate ventilation.
Over 5 feet (1524 mm) through 10 ^{feet} (3048 mm)	Above requirements plus a combustible gas-detection alarm system
Over 10 feet (3048 mm) through 15 feet (4572 mm)	Above requirements plus special inspection by the customer, or his or her representative as required by the <u>New York City Building Code</u> .
Over 15 feet (4572 mm) through 20 feet (6096 mm)	Above requirements plus explosion venting per NFPA 68 and NFPA 69 or alternative ventilation acceptable to the <u>commissioner</u> and <u>automatic gas shutoff</u> devices
Over 20 feet (6096 mm)	Above requirements plus suitable fire protection approved by the <u>commissioner</u>

For new gas installations made in existing structures, the above requirements shall be used to the extent feasible. Alternate designs may be considered by the commissioner.

E.2.2

When located inside the building, each regulator shall be provided with a vent pipe that leads directly to the outdoor air. The vent pipe shall be sized according to local utility requirements. The vent outlet shall not be located under a window or any opening leading back into the premises or located below any overhang or projection. No gas regulator vent outlet shall be covered over, plugged up, or otherwise obstructed, and all gas vents shall be identified by suitable marking on the outlet on the outside of the building.

E.2.3

Gas appliance pressure regulators requiring access to the atmosphere for successful operation shall be equipped with vent leading to the outdoors, unless constructed or equipped with a vent-limiting means to limit the escape of gas from the vent opening in the event of diaphragm failure.

E.3 Gas Meter Location

Gas meter location shall comply with the following:

1. When located inside the building, meters shall be located as near as practicable to the point of entrance of the service and, where possible, the meters shall be located in the cellar or basement unless otherwise permitted by the commissioner. The meter location shall be clean, dry, and free of refuse, steam or chemical fumes and located not less than 3 feet (914 mm) from any source of ignition or any source of heat which might cause damage to the meter. Meters shall be adequately protected against extreme cold or heat and shall be readily accessible for reading and inspection. The area in which the meter is located shall be properly ventilated as per Section E.4. Notwithstanding the foregoing, outside meter installation shall be permitted in areas where the utility company certifies that dry gas is being distributed.
2. No gas meter, other than the replacement of an existing meter shall be located in any boiler room or other room or space containing a heating boiler, in any stair hall, nor in any public hall above the cellar or above the lowest story if there is no cellar. However, where there is an existing gas meter located in any boiler room or other room or space containing a heating boiler, one additional gas meter may be installed in such room or space, provided such additional gas meter is installed adjacent to the existing gas meter and is used in conjunction with the supply of gas for a gas-fired heating boiler or a gas-fired water heater used as a central source of supply of heat or hot water for the tenants. Such additional gas meter may be installed only upon the condition that space heaters or hot water appliances in the tenant spaces are eliminated.
3. Gas meter rooms, when provided, shall at all times be kept clear of all rubbish; and shall not be used in any way for storage purposes, including material or equipment of any kind. A legible sign reading "Gas meter room—No storage permitted" shall be permanently and conspicuously posted on the exterior of the meter room door, except that the sign may be posted on the interior of the meter room door in Occupancy Group R-3. The lettering of such signs shall be of bold type at least 1 inch (25 mm) in height and shall be properly spaced to provide good legibility. The lettering and background shall be of contrasting colors. Where gas meters and related equipment are not located in a separate room but are located in an open floor area, no combustible material shall be stored or kept within 5 feet (1524 mm) of such equipment; nor shall the gas meter be within 3 feet (914 mm) of any heating boiler or sources of ignition and, except Occupancy Group R-3, there shall be a physical barrier required if the room is also used for storage purposes or the like.
4. The installation of gas meter piping shall be made in accordance with the requirements of this code and the local utility company.
5. Piping containing gas with a pressure exceeding $1/2$ psig (3.4 kPa gauge) and the gas service pressure regulator which may be subjected to accidental vehicular impact shall be suitably protected.

E.4 Gas Meter Room Ventilation

Any one of the following methods shall be considered sufficient to provide proper ventilation to a room or space in which a gas meter(s) is installed:

1. An opening to the outside air in the wall of such room or space, provided the free area of the opening is not less than 30 square inches (19 321 mm²).
2. A duct having a cross-section area of at least 50 square inches (32 522 mm²) of free area and a maximum length of 15 feet (4572 mm) leading to the outside air. If a longer duct is required due to the building construction, the area of the duct should be increased accordingly, subject to the approval of the commissioner. However, under no circumstances shall the means of ventilation for the gas meter room or space be from an adjoining room or space within the building.

The above requirement is not applicable to one- and two-family dwellings, since the gas meter is available for continuous supervision.

E.5 Gas Service Piping Connections

Gas service piping connections shall comply with the following:

1. Gas service piping shall be fitted with a gas service line valve, the valve located on the supply side of the meter and service regulator, if a service regulator is required. If a plug-type valve is used, it shall be constructed so as to prevent the core from being blown out by the pressure of the gas. In addition, it shall be of a type capable of being locked in the off position by the local gas utility. When the gas service line valve is inside the building, it shall be in an accessible location within 2 feet (610 mm) of the point where the gas service connection enters the building or at such other location as may be permitted by the commissioner. Where the gas service connection is installed through a building wall below ground, it shall be protected with a wall sleeve extending at least 4 inches (102 mm) beyond the outer side of the wall and at least 1 inch (25 mm) beyond the inner side of the wall. The sleeve shall be sealed at both ends to prevent the entry of water and gas. Gas service connections, installed through ground slab construction, shall be protected with a floor sleeve sealed at both ends to prevent the entry of water and gas. The sleeve shall extend at least 4 inches (102 mm) above the floor, and shall be installed as specified by the utility company providing the service. It shall terminate at least 4 inches (102 mm) outside the building.
2. In all high-pressure areas, the utility company providing the service may inspect the gas service line valve and regulator in accordance with the provisions of 16 NYCRR Part 255 in addition to the department in accordance with Section 406 of this code.
3. No gas service shall enter a structure at a horizontal distance of less than 10 feet (3048 mm) from the cellar termination of a stairway, nor shall any gas meters or gas regulators be located less than 10 feet (3048 mm) from such stairway termination. Where such services, meters and regulators are separated from the stairway termination by a permanent partition or wall having a fire-resistance rating of at least 1 hour, the foregoing shall not apply. Unless forbidden by other provisions of this code, locations under a stairway are exempt from this requirement.
4. When the structure is erected on fill or on piles, provision shall be made to preclude possible damage to the gas service piping caused by settlement.

5. The installation of gas service piping shall be made in accordance with the requirements of the utility corporation providing the service as regulated by the provisions of 16 NYCRR Part 255. Further, such installation shall meet the requirements of the department.
6. Gas service piping outside a structure shall be installed not less than 24 inches (610 mm) below grade, except that a lesser distance of not less than 18 inches (457 mm) may be permitted, provided the piping is adequately protected in accordance with the requirements of this code and the utility corporation supplying service, and the piping is not located below a driveway. Any piping that is exposed to outdoor temperatures or installed underground with a cover of less than 2 feet (610 mm) shall be protected against frost, except that frost protection may be omitted in areas where the utility company certifies that dry gas is being distributed.

E.6 Outside Gas Cut-Off

Outside gas cut-off shall comply with the following:

1. An outside gas service line valve or other outside emergency shutoff device or other means acceptable to the commissioner and the Fire Commissioner shall be installed in every gas service pipe outside the building. If buried, such valve, device or method shall be readily accessible from grade. Every existing service which is being replaced or refurbished shall be provided with such valve, device or means, but in any event, all existing gas services shall be provided with such valve, device or method by January 1, 2010. However, in R-3 occupancy the completion date shall be January 1, 2020. The utility company shall provide the Fire Department with suitable tools for operation of such emergency shutoff valves, devices or means. The number of such tools required for supplying Fire Department units shall be determined by the Fire Department. On or before January 31, of each year, the utility company shall report to the department and the Fire Department the actual number of emergency shutoff valves installed for the preceding year.
2. If the outside gas service line valve, emergency shutoff device or means is located below ground, it shall be installed in a protective housing, and a cover, easily identifiable shall be provided for the housing. The cover shall be flush with the surface of the ground and kept clear at all times so as to be accessible for immediate use.
3. The valve or emergency shutoff device shall be capable of being readily operated by removing the cover of the housing and inserting a portable key or other device over the operating end of the valve or emergency shutoff device.
4. If the outside gas service line valve is located above ground, it shall be suitably protected to prevent accidental vehicular impact and must be installed in accordance with provisions of 16 NYCRR Part 255.
5. Where a gas-fired generator provides required emergency power in accordance with the New York City Building Code such generator shall have an outside gas cut-off valve that is separate from other gas services to the buildings. Such valves shall be identified by signage.

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