

REGULATIONS OF CONNECTICUT STATE AGENCIES

Department of Energy and Environmental Protection

Public Utilities Regulatory Authority

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Natural Gas Pipe Line Companies

Part I

Definitions

Sec. 16-271-1. Definitions

As used in these regulations, “company” includes every corporation organized under the laws of this state, or of any other state, or of the United States, which holds a certificate of public convenience and necessity issued under the provisions of the Federal Natural Gas Act, approved June 21, 1938, as it now reads, or may hereafter be amended, for the purpose of constructing and operating a natural gas pipe line in this state; “commission” means the public utilities commission of the state of Connecticut; “standard code” means the latest edition of the American Standard Code for pressure piping promulgated by the American Standards Association of New York. All terms used herein shall have meanings as defined in the standard code; “gas pipe line” means any gas pipe line which is subjected to, or is intended to be subjected to, an internal gas pressure in excess of two hundred pounds per square inch above atmospheric pressure.

Part II

Design

Sec. 16-271-2. Compliance with standard code

All gas pipe lines shall be constructed in compliance with all applicable provisions of the standard code, except as said code is supplemented by these regulations.

Sec. 16-271-3. Construction of pipe lines

(a) Unless the standard code requires a more stringent type of construction, Type C construction shall apply to such sections as, at the time of construction, are within the limits of a city or borough, are under public highways or railroads or are within five hundred feet of any of the following:

- (1) A place of residence;
- (2) a building used for public gatherings;
- (3) a school building, playground or building devoted to institutional uses, or
- (4) a building devoted to a business in which more than three people are employed.

(b) A section of gas pipe line may be constructed in accordance with Type A or B of the standard code if permission of the commission is first obtained. Application to the commission for use of Type A or B standards shall be made by the company at least thirty days prior to construction which application shall provide information including maps and/or aerial photographs which will permit determination in the field of the location of the proposed pipe line to which Type A or B standards are to be applied.

Sec. 16-271-4. Proximity to buildings

Gas pipe lines shall not be installed within *ten* feet of *any* building intended for human occupancy * * *. *Upon approval of the commission, such pipe lines may be installed between ten feet and forty feet of such buildings, provided construction shall be in accordance with Type D, Class four of the Standard Code.*

(Effective June 4, 1963)

Sec. 16-271-5. Easements and rights-of-way

All companies shall prohibit construction of facilities, including but not restricted to buildings, structures, roads and other facilities for motor vehicles, within their easements or rights-of-way, which might in any way interfere with the safe operation of the pipe line. All companies shall immediately notify the commission in writing of proposed structures which to their knowledge are to be constructed within forty feet on either side of the pipe line and of proposed roads or other facilities for motor vehicles to be constructed within, over or across their easements.

Sec. 16-271-6. Crossings and parallels

A gas pipe line shall not be laid under a railroad or highway or other facilities traversed by motor vehicles except as provided as follows:

(1) At railroad crossings, the pipe shall be enclosed in a casing which meets the minimum requirements and specifications of the latest edition of the American Petroleum Institute Code pertaining to "Pipe Line Crossings Under Railroad Tracks." Such crossings shall be made as nearly as practicable at an angle of 90° to the center line of the railroad.

(2) At highway crossings, the pipe shall be enclosed in a casing constructed in the same manner as required in subdivision (1) above, except that the minimum distance from the top of the casing to the traveled surface of the road shall be not less than three feet six inches and the casing shall extend to a point not less than fifteen feet beyond the edge of the pavement or the traveled surface or to the line of the right-of-way, whichever is the lesser. Such crossings shall be made as nearly as practicable at an angle of 90° to the center line of the highway.

(3) In the case of facilities for motor vehicles, including parking and truck servicing areas, the top of the pipe shall be not less than three feet from the traveled surface and the ditch underneath, around and over the pipe shall be backfilled with well compacted material free from rocks or boulders.

(4) In the case of private driveways used only for residential purposes, the top of the pipe shall be not less than two feet six inches from the traveled surface and the trench shall be filled as set forth in subdivision (3) of this regulation.

(5) When a new road is constructed over a pipe line that is intended to be accepted by a town as a public highway, such pipe line shall meet the requirements of subdivision (2) above.

(6) When an existing public highway is widened, the casing shall be extended so that it meets the requirements of subdivision (2) above.

(7) A pipe line shall not be laid under the traveled paved portion of a public highway, except where it crosses, unless special permission of the commission is first obtained.

Sec. 16-271-7. Sectionalizing valves

Sectionalizing valves (block valves) shall be installed and maintained at strategic points on the pipe lines system at an average of not less than one valve for each five miles of pipe line in Class 4 locations and one valve for each eight miles in Class 1, 2 or 3 locations with due regard to accessibility and the possible necessity for limiting a discharge of gas in the event of failure or an emergency. Such valves shall be protected from damage and tampering. In all installations, an operating device such as a suitable handwheel or wrench to open or close the valve shall be readily accessible to authorized persons.

Sec. 16-271-8. Automatic valves

Not less than fifty per cent of the sectionalizing valves which are sixteen inches or larger in nominal size shall be either continuously attended or shall be provided with automatic devices which close the valve in the event of a pipe line rupture. At large river crossings or other areas where the pipe line is exposed to extreme hazards, such automatic valves shall be installed at each side of the zone of hazard at the nearest accessible and safe point.

Sec. 16-271-9. Blow-down valves

Blow-down valves or pressure relieving devices shall be installed so that each section of pipe line between valves can be blown down. Such devices shall not be installed where the released gas pressure will present a hazard to nearby property or persons. Manually operated blow-down valves shall not be operated at such times and in such manner as to present a hazard to nearby property or persons.

Sec. 16-271-10. Attachment to bridges

Complete plans and specifications for attachment of pipe lines to bridges shall be filed with the commission not less than thirty days before the commencement of construction or installation.

Sec. 16-271-11. Assemblies, bends, connections

Prefabricated or welded assemblies, bends or connections shall be tested in accordance with the requirements of the standard code prior to being placed in service. such units may be tested at the factory, provided an appropriate certificate is furnished.

Part III**Construction****Sec. 16-271-12. Inspection**

Storage of pipe and its handling shall be such as to assure that the pipe installed will be free of nicks or other forms of damage which would tend to produce a concentration of stresses or otherwise reduce the strength of the pipe below the requirements for acceptability at the mill.

Sec. 16-271-13. Minimum cover

Main carrier pipe shall be laid and maintained at least twenty-four inches below the surface of the soil. Where there is interference with other subsurface structures, the pipe shall be laid a distance of not less than twelve inches away from such structures. Any interfering structure which provides a space in which an explosive atmosphere might accumulate in the event of a leak shall be avoided where possible and preference shall be given to crossing over rather than under such structures. A metallic protective shield of a thickness at least as great as the pipe shall be provided or the pipe shall be cased in the event of such a crossing.

Sec. 16-271-14. Protective coating

All pipe lines shall be coated with a corrosion protective material free of flaws. This coating shall be tested after a section of main is back-filled and shall have an electrical resistance of not less than fifty ohms per one thousand square feet of coated pipe surface exposed to the earth. Means shall be provided to protect the pipe and its coating against damage before and during back-filling.

Sec. 16-271-15. Welding

All welds on pipe lines shall be made in accordance with specifications of the latest edition of the API Standard, "A Standard for Field Welding of Pipe Lines," which at least embodies the minimum requirements of the standard code.

Sec. 16-271-16. Back-filling

The ditch underneath, around and over the pipe shall be back-filled with material free from large rocks or boulders. If such material is not available, a protective shield to prevent damage to the coating shall be used.

Sec. 16-271-17. Final pressure tests

The commission shall be notified at least twelve hours prior to the commencement of any pressure test of a gas pipe line. Such pressure tests shall be of at least twelve hours' duration except when the test is hydrostatic, in which case it shall not be less than four hours. Prior to the test of pipe lines, appropriate town officials shall be notified where and when such tests are to be made in order that adequate and proper police protection may be provided. A section of pipe line shall be tested hydrostatically or with air or an inert gas in accordance with the testing requirements and procedures set forth in the standard code prior to placing such section of pipe line into service.

Sec. 16-271-18. Purging

Air shall be purged from pipe lines by displacement with an inert gas before a combustible gas is admitted. At no time shall an explosive mixture be allowed to form in the pipe line.

Sec. 16-271-19. Leak tests

Suitable tests shall be made on pipe lines to insure that they are free of leaks before combustible gas pressure is put in them. An acceptable hydrostatic test shall constitute a satisfactory leak test.

Sec. 16-271-20. Inspection and test of welds

The quality of welds and welder qualifications shall be checked by radiographic examination in accordance with the procedures set forth in the latest edition of API Standard, "Standard for Field Welding of Pipe Lines," or by complete removal of welds which shall meet the testing requirements outlined in the above welder qualification procedure and meet the requirements of the standard code. Not less than ten per cent of the welds between any two sectionalizing valves (block valves) shall be examined, the selection of which shall be in a manner that assures a representative sample of the work done by various welders or welding crews.

Sec. 16-271-21. Certification

Within thirty days subsequent to the construction or major reconstruction of any of its pipe line facilities, every company shall certify to the commission that the pipe line has been tested and meets the requirements of the standard code and regulations prescribed by the commission for the stated maximum service pressure at which it will be operated. The certification shall also state (1) pressure at which the lines were tested, (2) computations of maximum allowable working pressure in accordance with the provisions of the standard code and (3), in the event of air or inert gas tests, measurements of leakage obtained by the testing.

Part IV

Compressor Stations

Sec. 16-271-22. Locations

No compressor station to be located on any gas pipe line shall be constructed in any area zoned for residential use or in any area otherwise restricted by zoning regulations. In other areas, the distance between any compressor station, designed to operate at pressures in excess of two hundred fifty psig, and any building intended for human occupancy and not under the control of the gas company shall not be less than five hundred feet, except for compressor stations having an installed capacity of less than one thousand horsepower, in which case such distance shall not be less than two hundred fifty feet.

Sec. 16-271-23. Piping

All piping in compressor stations shall be installed in accordance with the applicable provisions of the standard code for Type C Class 3 locations unless conditions require Type D Class 4 construction.

Sec. 16-271-24. Relief valves

Automatic pressure relief devices shall be of sufficient capacity and sensitivity to assure that the maximum allowable working pressure of any piping or equipment shall not be exceeded. Suitable provisions shall be made to exhaust the gas in a safe manner. Tests and inspections shall be made with reasonable frequency to assure continued sensitivity of these devices.

Sec. 16-271-25. Safety shut-down

Each compressor station operating at pressures in excess of two hundred psig shall be provided with a manually actuated automatic device which will allow the station to be shut down from a point outside the building.

Sec. 16-271-26. Fire prevention

All inflammable or combustible materials shall be stored in a separate structure built of noncombustible materials, located a safe distance from the compressor building. All electric wiring, fixtures, and devices within compressor buildings shall be designed and installed in accordance with the latest edition of the National Electrical Code and shall meet the requirements thereof for Class 1 locations. Gas engine crankcases shall be vented to the outside atmosphere; the vent shall be of a size not smaller than the connection provided by the compressor manufacturer. Warning signs adequate to indicate the danger involved shall be placed in conspicuous locations around the compressor station area.

Part V

Meter and Regulator Stations

Sec. 16-271-27. Piping

All piping in meter and regulator stations shall be in accordance with the requirements of the standard code for Type C Class 3 locations unless conditions require Type D Class 4 construction.

Sec. 16-271-28. Electric installations

All electric wiring, fixtures and devices in meter and regulator station buildings shall be designed and installed in accordance with the latest edition of the National Electrical Code and shall meet the requirements thereof for Class I locations.

Sec. 16-271-29. Ventilation

Meter and regulator station buildings shall be provided with natural draft ventilating devices sufficient to accomplish at least five changes of air in the building per hour.

Part VI

Operation and Maintenance

Sec. 16-271-30. Maximum pressure

At no time shall the gas pressure in any pipe line exceed the maximum service pressure for which it was certified to the commission. If pressure tests are required after a line has been in operation, the commission shall be notified at least twelve hours before test pressures are applied except where necessity for maintaining continuity of service may require notice in a shorter time.

Sec. 16-271-31. Exposed facilities

Any pipe line facility which protrudes above the ground shall be conspicuously marked or fenced, or otherwise protected against damage and tampering.

Sec. 16-271-32. Corrosion control

Adequate cathodic protection shall be provided for underground ferrous materials considering the adequacy of the coating, the condition of the soil, proximity of other metallic structures and other relevant factors. The pipe line will be considered to have adequate cathodic protection of the electrical potential is reduced by the protective current to a level eighty-five hundredths of a volt below the potential of the soil, or a change of 0.25 volts in a negative direction, measured with respect to a standard copper sulphate half-cell.

Sec. 16-271-33. Odorization

All combustible gases transported or distributed by pipe line shall have a distinctive odor of sufficient intensity so that a concentration of one-half of one per cent of the gas in the air is readily perceptible to the normal or average olfactory senses of a person coming from fresh uncontaminated air into a closed room containing one part of the gas in one hundred ninety-nine parts of air. Whenever necessary to maintain this level of intensity, a suitable odorant shall be added in accordance with the following specifications:

(1) The odorant shall be harmless to humans, nontoxic and noncorrosive to steel, iron, brass, copper and leather. It shall not be soluble in water to an extent greater than two and one-half parts by weight of the odorant to one hundred parts by weight of water;

(2) The products of combustion from the odorant shall be nontoxic to a person breathing air containing these products of combustion and shall not be corrosive or harmful to materials which normally would be exposed to such products of combustion;

(3) Equipment for introduction of the odorant into the gas shall be so designed and so built as to avoid wide variation in the level of odor in the gas. The equipment

and facilities for handling the odorant shall be located where the escape of odorant would not be a nuisance. Every company shall keep the commission informed of the type of odorant used, the ratio of odorant to gas and the location of the odorization stations.

Sec. 16-271-34. Accidents

All companies shall use every effort to properly warn and protect the public from danger and shall exercise all possible care to reduce the hazard to which employees, customers and others may be subjected by reason of its equipment and facilities. Every company shall promptly report to the commission all accidents involving public safety or attended with personal injury and assist the commission in examining into the causes of and the circumstances connected with such accidents.

Part VII

Records, Complaints and Service Interruptions

Sec. 16-271-35. Records

Every company shall file with the commission a monthly report setting forth the maximum operating pressure in the company's pipe line system, indicating the location, date and time of day such pressures occurred. Every company shall keep and make available to the commission pressure records at each point of metering.

Sec. 16-271-36. Complaints

Every company shall make prompt and full investigation of each complaint made to it, either at its office or in writing, and it shall keep a record of substantial complaints by municipal officers and property owners, which shall show the name and address of the complainant, the date and nature of the complaint and the adjustment or disposal thereof.

Sec. 16-271-37. Service interruptions

Interruptions to the service furnished by any company, caused by the failure of any portion of its plant or equipment, shall be promptly reported to the commission, followed by a written report detailing the cause of the interruption and steps taken to prevent any recurrences.

Sec. 16-271-38. Notification

Every company operating a gas pipe line in this state shall file, with the commission and all towns and municipalities within which such gas pipe lines are located, the title, address and telephone number of responsible officials of such gas company who may be contacted in the event of an emergency. In the event of any changes, immediate notification thereof shall be given to the commission and such towns and municipalities.