

March 3, 1972

Mr. R. E. Purucker  
Chief Engineer  
Wisconsin Public Service Commission  
Mill Farms State Office Building  
Madison, Wisconsin 53702

Dear Mr. Purucker:

This will acknowledge receipt of your letter of January 5, 1972, and the accompanying letter of December 15, 1971, from the Wisconsin Utilities Association.

The request by the Wisconsin Utilities Association that an alternative to the provisions of Paragraph 192.465(a) be made available to utilities operating within the jurisdiction of the Wisconsin Public Service Commission would be in the nature of a change to the Federal safety standards for your State. A change to the Federal safety standards can be made only by the Office of Pipeline Safety. This does not preclude the Wisconsin Public Service Commission from adopting for intrastate pipeline systems additional, or more stringent standards, which are not incompatible with the Federal standards.

We have considered the alternative to Paragraph 192.465(a) that the Wisconsin Utilities Association proposed and feel that it would be detrimental to public safety. We feel that Paragraph 192.465(a) is concerned with measures that should be taken to prevent leaks while the alternative proposed would only detect leaks instead of preventing them.

We hope that this answers your question. If we can be of further assistance, please let us know.

Sincerely,

Joseph C. Caldwell  
Acting Director  
Office of Pipeline Safety

State of Wisconsin \ PUBLIC SERVICE COMMISSION

January 5, 1972

Office of Pipeline Safety  
Department of Transportation  
400 Sixth Street SW  
Washington, D.C. 20590

Gentlemen:

Enclosed in duplicate is a request by representatives of Wisconsin distribution utilities regarding section 192.465(a) of the Minimum Federal Safety Standard. We have adopted as a state standard the existing wording of section 192.465(a) but because the request of the utilities is general in nature there is a question as to whether or not this Commission, as a state regulatory body operating under a 5(a) certificate, has the necessary authority to grant or deny such a request. If it is your position that this Commission does have the necessary authority to deal with the request, please so inform us. If it is your position that this Commission does not have the necessary authority, we would like to add the following comments.

We feel the position of the Wisconsin utilities is well-founded and support the request. At this time, however, we would not support a general change of the rule to apply to the industry as a whole but only as such a change would pertain to the distribution utilities operating in the state of Wisconsin. Our support is based primarily on our leak survey requirements (PSC 192.723; copy attached to utilities' letter), which in almost all cases are carried out by the use of mobile flame ionization leak detection units. Most of the surveys performed are done with operator-owned equipment. In some cases the operators are actually covering their systems more often than that required by our rules. In addition, we are requiring under section PSC 192.457(d) (copy attached to utilities' letter) all operators to cathodically protect all effectively coated steel distribution pipelines by August 1, 1975. This requirement will apply to short sections. Under such circumstances because of the applicability of the present wording of section 192.465(a) our operators would be required to survey many more short sections of main than would presently be required.

We feel the request is reasonable, will not reduce pipeline safety, and will be in the best interests of the public.

Very truly yours,

R.E. Purucker  
Chief Engineer

Enclosures

WISCONSIN UTILITIES ASSOCIATION

Wisconsin Gas Company  
626 E. Wisconsin Avenue  
Milwaukee, Wisconsin 53201  
414 276-6720, extension 608

December 15, 1971

Director  
Office of Pipeline Safety  
Department of Transportation  
400 Sixth Street SW  
Washington, D.C. 20590

AIR MAIL

Dear Sir:

The Gas Codes Task Force responsible to the Executive Committee of the Wisconsin Utilities Association has carefully reviewed the provision of sub-part I of Part 192 Minimum Federal Safety Standards, and offers the following comments and request relative to Section 192.465(a) regarding requirements for monitoring the level of cathodic protection.

The requirement of testing at least 10% of isolated protected structures with a different 10% checked each succeeding year, the entire system thereby being covered in a ten-year period, is one which will impose an undue operating cost upon our customers that is not commensurate with the potential benefits to be achieved. We invite your consideration of the status of (1) short main sections, and (2) isolated steel service risers in systems operated by utilities subject to the jurisdiction of the Public Service Commission of Wisconsin as follows:

(1) Short Main Sections

We recognize the desirability of testing to determine the adequacy of protection on sections of piping falling within the scope of this paragraph. We feel, however, that the practicality of monitoring the level of cathodic protection on the thousands of short sections of mains, many of which are used for transition sections between plastic and metal or between plastic systems and as jumper connections and loops, is not commensurate with the need. We are convinced that these short sections of pipe which have been coated and cathodically protected will remain under such

protection. To maintain either test wire stations, install such stations where not now existing, or to contact the pipe from the surface through a barhole on the premise that such surveillance would possibly reveal a structure which had lost protection and in which a leak could conceivably develop, would be more expensive and cause more disruption to public and private property than is warranted.

You are undoubtedly aware that the Public Service Commission of Wisconsin, having adopted and administered a gas safety code since 1952, has incorporated its requirements as Chapter PSC 135 of the Wisconsin Administrative Code. On December 13, 1971, the Commission held a public hearing in Madison, Wisconsin for the purpose of adopting a new Chapter PSC 135 which would include the Federal Minimum Safety Standards and such other additional requirements deemed appropriate. One of these additional requirements, which had previously been in effect as paragraph 852.2 will be retained in the consolidated code and will be redesignated as PSC 192.723 (d).

The provisions of paragraph PSC 192.723 (d) (copy attached) are significant to this discussion in that these extensive requirements for leakage surveys provide a realistic and effective means of detecting any potentially hazardous situation resulting from the loss of cathodic protection in isolated structures. The mobile flame ionization and infrared units cited in PSC 192.723 (d) exhibit exceptional sensitivity, capable as they are of detecting and indicating the presence of as little as 100 parts per million (.01%) of gas in air in the case of the infrared and 5 parts per million (.0005%) in the case of the flame ionization instruments. These levels of sensitivity are 1/400 and 1/8,000 respectively, of the lowest concentrations at which an explosive mixture of gas in air would exist.

We are convinced that, with the availability of these detection units, the systematic surveys of mains that are required by the Wisconsin code provide a more comprehensive and more frequent coverage of short main sections than does the sampling approach required by 192.465(a). In the unlikely event that the combination of remote possibilities leading to a leak in a cathodically protected structure actually did occur, the situation would be recognized much more promptly as a result of annual leakage surveys than as a result of the 10% monitoring provision.

Further, one of the additional requirements that the Wisconsin Public Service Commission will incorporate in its current code writing action will make it mandatory that all existing coated steel mains and services be brought under cathodic protection, whether or not active corrosion is taking place. A copy of the proposed language (PSC 192.457(d)) is attached.

(2) Isolated Steel Service Risers

Under the provisions of Chapter PSC 134.30(1) (copy attached) it is necessary that each gas utility schedule a service crew to enter the premises of customers at least once every twelve years to remove, inspect, and adjust or repair the customer's gas meter. It would be reasonable, in our estimation, to schedule a crew to perform the inspection of isolated steel service risers coincident with the meter replacement cycle. Conversely, there being no basis to assume that a ten-year cycle is related to benefits measurably superior to a twelve-year cycle, it would be unnecessarily expensive and inefficient to conduct the service riser inspection cycle independent of the meter inspection cycle.

Furthermore, these services are subject to the leakage surveys as described in PSC 192.723(d).

On the basis of the foregoing, we request that an alternative to the provisions of paragraph 192.465(a) be made available to utilities operating within the jurisdiction of the Wisconsin Public Service Commission, as follows:

In the case of electrically isolated sections of steel main piping less than twenty-five (25) feet in length used as transition sections between metallic and/or plastic systems, where such piping has been coated and cathodically protected, utilities may as a substitute to the provisions of 192.465(a) perform a leakage survey in accordance with the provisions of PSC 135 paragraph PSC 192.723(d). In the case of electrically isolated steel services where such piping has been coated and

cathodically protected, the interval of testing the level of cathodic protection shall be the same as the interval between meter tests as prescribed in Section PSC 134.30.

Yours very truly,

R. H. Holder, P.E.  
Chairman  
Gas Codes Task Force

Enclosure - 3

192.457      EXTERNAL CORROSION CONTROL: BURIED OR SUBMERGED PIPELINES INSTALLED BEFORE AUGUST 1, 1971.

(a) Except for buried piping at compressor, regulator, and measuring stations, each buried or submerged transmission line installed before August 1, 1971, that has an effective external coating must, not later than August 1, 1974, be cathodically protected along the entire area that is effectively coated, in accordance with this subpart. For the purposes of this subpart, a pipeline does not have an effective external coating if its cathodic protection current requirements are substantially the same as if it were bare. The operator shall make tests to determine the cathodic protection current requirements.

(b) Except for cast iron or ductile iron, each of the following buried or submerged pipelines installed before August 1, 1971, must, not later than August 1, 1976, be cathodically protected in accordance with this subpart in areas in which active corrosion is found:

(1) Bare or ineffectively coated transmission lines.

(2) Bare or coated pipes at compressor, regulator, and measuring stations.

(3) Bare or coated distribution lines. The operator shall determine the areas of active corrosion by electrical survey, or where electrical survey is impractical, by the study of corrosion and leak history records, by leak detection survey, or by other means.

(c) For the purpose of this subpart, active corrosion means continuing corrosion which, unless controlled, could result in a condition that is detrimental to public safety.

*PSC 192.457(d) Notwithstanding the provisions of 192.457(b) (regarding active corrosion), effectively coated steel distribution pipelines must, not later than . . . (The remainder of this page did not print and the typist has no idea what was on it.)*

(b) Mains in places or on structures where anticipated physical movement or external loading could cause failure or leakage must be patrolled at intervals not exceeding 3 months.

PSC 192.722 Distribution Mains: Markers.

*When distribution mains are located outside urban areas, their location shall be marked (recognizable to the public) at each fence line, road crossing, railroad crossing, river, lake, stream, or drainage ditch crossing and wherever it is considered necessary to identify the location of a pipeline to reduce the possibility of damage or interference.*

192.723 DISTRIBUTION SYSTEMS: LEAKAGE SURVEYS AND PROCEDURES.

(a) Each operator of a distribution system shall provide for periodic leakage surveys in its operating and maintenance plan.

(b) The type and scope of the leakage control program must be determined by the nature of the operations and the local conditions, but it must meet the following minimum requirements:

(1) A gas detector survey must be conducted in business districts, including tests of the atmosphere in gas, electric, telephone, sewer and water system manholes, at cracks in pavement and sidewalks, and at other locations providing an opportunity for finding gas leaks, at intervals not exceeding 1 year.

(2) Leakage surveys of the distribution system outside of the principal business areas must be made as frequently as necessary, but at intervals not exceeding 5 years . . . **(The remainder of this page did not print and the typist has no idea what was on it.)**

(b) *In each principal business district a building survey shall be conducted once a year. The piping from the service entrance to the meter outlet and metering and regulating equipment shall be tested for gas leakage in those buildings that have gas service.*

(c) *A survey of all buildings used for public gatherings such as schools, churches, hospitals, and theaters shall be conducted once each year. The piping from the service entrance to the meter outlet and metering and regulating equipment shall be tested for gas leakage.*

(d) *In residential areas, in addition to a survey of public buildings the vegetation shall be checked. At least 3 barhole tests shall be made in each block; at least one street opening shall be checked if one exists in each block or at each intersection; and on streets where system is operating at a pressure of more than 10 p.s.i.g., all street openings shall be checked. (See 192.723(b) (1) above for types of street openings.) The utility may substitute for the barhole tests a ground surface survey with a hand-operated, continuous-sampling instrument capable of detecting combustible gas in air concentrations of 100 parts per million. The utility may substitute for all the tests required by this section (PSC 192.723(d)) a survey by mobile flame ionization or infrared gas detecting units, provided that a method be included to check individual services. The tests required by this section (PSC 192.723(d)) shall be made each year.*

(e) *Along lines in rural areas, the vegetation shall be checked annually.*

(f) *When a leak complaint is received and the odor of [sic] gas indicates that there is a leak in or near the premises, a search shall be carried to conclusion until such leak is found.*

**PSC 192.724 FURTHER LEAKAGE SURVEY AFTER REPAIR OF LEAK . . . (The remainder of this page did not print and the typist has no idea what was on it.)**

(3) Rotary meters shall be tested at two loads with the minimum load at 10% of rating by the use of a portable or volumetric meter or other approved proving devices, or be given a differential test. In the latter case an original test record shall be set up immediately after installation; further differential test results shall be recorded and compared with the original test record.

(4) A test of an orifice meter shall consist of tests of the recording gauges, and the removal, inspection and measurement of the orifice.

(5) Temperature-compensated gas displacement meters when tested shall be proved to a base temperature of 60 degrees Fahrenheit.

(6) Turbine-type meters shall be tested at two loads with the minimum load at 10% of rating by the use of a portable or volumetric meter or other approved proving the devices, or be given a turbine blade, rotor and gear assembly spin test, either by manual or velocity rotation. Before a particular type turbine meter can be used, the manufacturer must file with and be accepted by the Commission a minimum coasting time which will satisfactorily indicate the operating condition of the internal metering mechanism. For the spin test method a test record shall be set up; and the original and subsequent spin test results shall be recorded and compared with the specified minimum coasting time as filed with the Commission for that type meter.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59; am. (3), Register, November, 1962, No. 83, eff. 12-1-62; cr. (5), Register, January, 1965, No. 109, eff. 2-1-65; cr. (6), Register, April, 1969, no. 160, eff. 5-1-69.

PSC 134.29 Installation test. No meter shall be used to meter gas consumption for billing purposes unless it was tested and found correct, as defined in Wis. Adm. Code section PSC 134.27 not longer than 15 months previous to its use. The first test on a meter or a retest after a major overhaul shall include a check of the registering device and linkages.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59; am. Register, April, 1969, No. 160. eff. 5-1-69.

PSC 134.30 Periodic testing and maintenance. Each utility shall test its meters according to the following schedule except as provided in Wis. Adm. Code section PSC 134.26(1). Where pressure regulators, volume corrective devices, or other measuring devices are used on the service or used in conjunction with the meters, they shall be tested on the same schedule as the meters.

(1) All diaphragm meters that are measuring dry gas and have nonabsorptive type diaphragms or were rediaphragmed since the introduction of dry gas shall be due for removal

from service, tested, adjusted, repaired if necessary, and retested if reused, every 144 months if the meter capacity is 2,400 cubic feet per hour or less at 1/2-inch water column and every 48 months if the capacity is greater than 2,400 cubic feet. Meters shall be tested during the calendar year in which said 144th or 48th month falls.