

220 CMR 114.00: UNIFORM NATURAL GAS LEAKS CLASSIFICATION

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114.01: Purpose and Scope

- (1) Purpose. 220 CMR 114.00 governs:
 - (a) uniform natural gas leaks classification;
 - (b) requirements for undertaking projects in a public way;
 - (c) prioritization of projects located within a School Zone;
 - (d) reporting requirements, consistent with the provisions of M.G.L. c. 164, § 144; and
 - (e) the repair and elimination of environmentally significant Grade 3 leaks.
- (2) Scope. 220 CMR 114.00 applies to every Gas Company, municipal gas department, or other person engaged in the distribution of natural gas.

114.02: Definitions

For the purposes of 220 CMR 114.00, the terms set forth in 220 CMR 114.02 shall be defined as follows:

Annual Service Quality Report. A Company's annual report which compares its performance in the previous calendar year to the Department's service quality standards, as required by M.G.L. c. 164, § 1I.

Barhole. A small-diameter hole made in the ground along the route of a gas pipe that is used by the Gas Company to obtain a sub-surface gas-in-air reading.

Combustible Gas Indicator (CGI). A device used to detect flammable gas-in-air concentrations. Department. Department of Public Utilities, Commonwealth of Massachusetts.

Flame Ionization Unit (FIU). A device used to detect flammable gas concentrations measured in parts per million.

FLUXbar. A barhole purger modified to gently vacuum air through a drillhole located over a leak while a CGI measures the percent of gas in that airflow.

Gas Company. Refers to every Gas Company, municipal gas department, or other person engaged in the distribution of natural gas, as provided in M.G.L. c. 164, §§ 1 and 34.

Gas System Enhancement Plan (GSEP). A Gas Company's annual gas system enhancement program plan to replace aging natural gas pipeline infrastructure, pursuant to M.G.L. c. 164, § 145.

Gas System Enhancement Plan Reconciliation (GREC). The Department's annual investigation and reconciliation of GSEP project costs pursuant to M.G.L. c. 164, § 145(f).

Leak Extent. An area in which a Gas Company has detected positive FIU readings or positive CGI readings surrounded by an area of negative FIU readings or negative CGI readings.

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Pipeline. All parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies, as defined in 49 CFR 192.3.

School Zone. On or within 50 feet of the real property comprising a public or private accredited preschool, accredited Head Start facility, elementary, vocational, or secondary school.

114.03: Applications for Exceptions

Any person engaged in the classification of natural gas leaks may make a written request to the Department for an exception to the provisions of 220 CMR 114.00, in whole or in part.

The request shall justify why the exception should be granted and shall demonstrate why the exception sought provides an equal or greater level of safety than the safety objective prescribed in M.G.L. c. 164, § 144. The request shall include details on the need for the exception, specific information on the circumstances surrounding the requested exception, the provisions of 220 CMR 114.00 from which exception is sought, the time period for which the exception is sought, and a description of any safety consequences that might result from the exception. Documentation in support of the request shall be submitted.

The Department may deny the exception or grant the exception as requested, or as modified by the Department and subject to conditions. Any exception shall be issued in writing and may be made by the Director of the Pipeline Engineering and Safety Division, or by the Director's functional successor in the event of an internal reorganization of the Department. Any person aggrieved by a decision of the Director regarding a request for an exception may appeal the Director's decision to the Commission. Any appeal shall be in writing and shall be made not later than ten business days following issuance of the written decision of the Director.

114.04: Uniform Gas Leak Classification

(1) Every person whose job duties or responsibilities include the classification of natural gas leaks shall be trained and qualified pursuant to 49 CFR Part 192.805 to ensure proper leak classification.

(2) Each Gas Company shall classify natural gas leaks utilizing established gas leak classification criteria and a method to determine sub-surface gas migration as set forth in the Gas Companies' operating procedures within a reasonable amount of time of discovery, taking into consideration the following:

- (a) the operating pressure of the Pipeline;
- (b) the size of the leak migration pattern;
- (c) the population density; and
- (d) the proximity to buildings and structures.

(3) Each Gas Company shall assess a grade to all reported natural gas leaks as follows:

(a) Grade 1 Leak. A Grade 1 Leak shall be a leak that represents an existing or probable hazard to persons or property. Grade 1 leaks require the immediate commencement of repair and continuous action until the conditions are no longer hazardous, the source of the leak is eliminated, and permanent repairs have been completed. Whenever appropriate and feasible, a Gas Company shall notify the fire department and chief law enforcement officer in each city or town where a Grade 1 Leak is identified.

(b) Grade 2 Leak. A Grade 2 Leak shall be a leak that is recognized as nonhazardous to persons or property at the time of detection, but justifies scheduled repair based on probable future hazard. The Gas Company shall repair Grade 2 leaks or replace the Pipeline within 12 months from the date the leak was classified. All Grade 2 leaks shall be reevaluated by a Gas Company at least once every six months until eliminated; provided however, that the frequency of reevaluation shall be determined by the location and magnitude of the leakage condition.

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(c) Grade 3 Leak. A Grade 3 Leak shall be a leak that is recognized as nonhazardous to persons or property at the time of detection and can be reasonably expected to remain non-hazardous. The Gas Company shall reevaluate Grade 3 leaks during the next scheduled survey, or within 12 months from the date last evaluated, whichever occurs first, until the leak is eliminated or the Pipeline is replaced. A municipal or state public safety official may request a reevaluation of a Grade 3 leak prior to the next scheduled survey, or sooner than 12 months of the date last evaluated, if the official reasonably believes that the Grade 3 leak poses a threat to public safety. Each Gas Company shall repair or eliminate Grade 3 leaks located on non-GSEP facilities that are initially classified on January 1, 2018 or later, other than those that were designated as environmentally significant in accordance with 220 CMR 114.07(1), within eight years.

(4) Each Gas Company shall file a plan with the Department to eliminate Grade 3 leaks on non-GSEP facilities that existed prior to January 1, 2018, in either its next Annual Service Quality Report, if required to submit such report, or on March 1, 2020. The Gas Companies shall thereafter submit an update in each subsequent Annual Service Quality Report, or annually on March 1st, until all such leaks are eliminated.

114.05: Requirements for Projects in a Public Way

(1) Upon the undertaking of a significant project on a public way exposing confirmed natural gas infrastructure, and with sufficient notice, a municipality or the Commonwealth shall submit written notification of the project to a Gas Company. Upon receipt of such written notice the Gas Company shall:

- (a) survey the project area for the presence of Grade 1, Grade 2, or Grade 3 leaks and set repair and replacement schedules for all known or newly detected Grade 1, Grade 2, and Grade 3 leaks;
- (b) ensure that any shut off valve in the significant project area has a gate box installed upon it or a reasonable alternative that would otherwise ensure continued public safety and that any critical valve that has not been inspected and tested within the past 12 months is verified to be operational and accessible; and
- (c) provide the repair and replacement schedule of gas leaks to the municipality or the Commonwealth.

114.06: Prioritization of Projects Located within a School Zone

Each Gas Company shall prioritize any Pipeline repairs or replacements required under 220 CMR 114.00 for gas leaks detected within a School Zone. A prioritization procedure shall be included in the operators Operations and Maintenance plan.

114.07: Repair or Elimination of Environmentally Significant Grade 3 Gas Leaks

(1) Identification and Designation.

(a) Each Gas Company shall designate Grade 3 gas leaks as environmentally significant if during the initial identification or the most recent annual survey if:

1. the highest barhole reading shows a gas-in-air reading of 50% or higher or
2. the Leak Extent is 2,000 square feet or greater.

A Gas Company is not precluded from proposing to the Department a more rigorous method of designating environmentally significant Grade 3 leaks based on field data or tested and proven technologies that may become available from time to time. Such proposals shall be submitted to the Department for approval.

(b) Each Gas Company with a GSEP shall incorporate the environmentally significant Grade 3 identification criteria into its GSEP and report the number of environmentally significant Grade 3 leaks on each length of GSEP-eligible pipe in its annual GREC filing.

(2) Repair or Elimination.

(a) Each Gas Company shall repair or eliminate environmentally significant Grade 3 gas leaks initially designated on or after January 1, 2018 as set out in 220 CMR 114.07(1)(a), provided that such repair or elimination does not compromise public safety, as follows:

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1. Barhole-designated leaks shall be repaired or eliminated within two years of initial designation, provided that any such leaks located on a pipe scheduled for repair under the GSEP within five years shall be repaired or eliminated within three years of initial designation;
 2. Leak-extent designated leaks with a Leak Extent between 2,000 and 10,000 square feet shall be repaired or eliminated within two years of initial designation, provided that any such leaks located on a pipe scheduled for repair under the GSEP within five years shall be repaired or eliminated within three years of initial designation; and
 3. Leak-extent designated leaks with a Leak Extent greater than 10,000 square feet shall be repaired or eliminated within 12 months of initial designation, provided that any such leaks located on a pipe scheduled for repair under the GSEP within three years shall be repaired or eliminated within two years of initial designation.
- (b) The Department may, pursuant to 220 CMR 114.03, grant an exception to the time frames for repair in 220 CMR 114.07(2)(a) for environmentally significant Grade 3 leaks that are inaccessible, challenging to repair, or in a street under a paving moratorium.
- (c) A Gas Company may choose to cap its environmentally significant Grade 3 leak repairs in any one calendar year at 7% of its total Grade 3 leak inventory as indicated in the previous year's final quarterly leak report.
- (d) Each Gas Company shall file a plan with the Department to eliminate environmentally significant Grade 3 leaks existing prior to January 1, 2018 with its next Annual Service Quality Report, if required to file such report, or on March 1, 2020. The Gas Companies shall thereafter submit an update with each subsequent Annual Service Quality Report, or annually on March 1st, as applicable, until all such leaks are eliminated.
- (3) If a Gas Company uses the leak-extent method to designate Grade 3 leaks as environmentally significant, the Gas Company shall measure a statistically significant randomized sample of environmentally significant Grade 3 leaks prior to repair using the FLUXbar method for a period of one year following implementation of the leak-extent method. Each such Gas Company shall report the FLUXbar measurements in
- (a) its next Annual Service Quality Report, or
 - (b) in a report to the Department on March 1st following the one-year period of measurement.
- (4) Redesignation. A Grade 3 leak initially designated as environmentally significant by the Barhole method may be redesignated to a standard Grade 3 leak if a subsequent annual survey measurement indicates that the leak no longer qualifies as environmentally significant in accordance with 220 CMR 114.07(1)(a).

114.08: Reporting Requirements

- (1) Each Gas Company shall, for the life of the pipeline, maintain records of and provide the following information in its Annual Service Quality Report or on March 1st, annually, as applicable:
- (a) the location of each Grade 1, Grade 2, and Grade 3 leak existing as of the date of December 31st;
 - (b) the date each Grade 1, Grade 2, and Grade 3 leak was classified;
 - (c) the dates of repairs performed on each Grade 1, Grade 2, and Grade 3 leak;
 - (d) leaks carried forward from previous calendar year;
 - (e) new leaks identified by classification during the calendar year;
 - (f) each leak repaired during the calendar year;
 - (g) each leak eliminated during the calendar year;
 - (h) leaks pending at end of calendar year;
 - (i) any change in leak classification during the calendar year;
 - (j) whether each Grade 3 leak is designated as environmentally significant;
 - (k) the date of designation as environmentally significant, as applicable; and
 - (l) the Leak Extent or Barhole reading for environmentally significant Grade 3 leaks, as applicable.

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(2) Each Gas Company shall provide the following information to the Department for each quarter of each calendar year (*i.e.*, by April 15th, July 15th, October 15th, and January 15th):

- (a) leaks carried forward from previous quarter;
- (b) new leaks identified by classification during the quarter;
- (c) each leak repaired during the quarter;
- (d) each leak eliminated by replacement during the quarter;
- (e) leaks pending at end of quarter;
- (f) any change in leak classification during the quarter;
- (g) whether each Grade 3 leak is designated as environmentally significant;
- (h) the date of designation as environmentally significant, as applicable; and
- (i) the Leak Extent or Barhole reading for environmentally significant Grade 3 leaks, as applicable.

(3) Each Gas Company shall specify any reclassification or redesignation of previously identified leaks in its annual report. For each reclassified or redesignated leak, the Gas Company shall provide the following minimum information:

- (a) the change in the gas-in-air or leak-extent readings;
- (b) the leak migration pattern; and
- (c) a justification for the change in classification or designation.

(4) Gas leak information, not otherwise available to the public on the Department's website, shall be made available to any municipal or state public safety official upon written request to the Department.

114.09: Gas Company Procedures Manual

Each Gas Company shall incorporate procedures for all requirements of 220 CMR 114.00 into their written procedures under 49 CFR Part 192 as applicable, to ensure compliance with M.G.L. c. 164, §§ 105A, 144, and 220 CMR 114.00.

REGULATORY AUTHORITY

220 CMR 114.00: M.G.L. c. 164, §§ 66, 76, 76C, 105A, 144, 145, and St. 2016, c. 188, § 13.