HOUSE DOCKET, NO. 4236 FILED ON: 4/29/2014

HOUSE . . . . . No. 4148

The Commonwealth of Massachusetts

PRESENTED BY:

Christopher G. Fallon

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act relative to cast iron pipelines in the commonwealth of Massachusetts.

PETITION OF:

NAME:	DISTRICT/ADDRESS:
Christopher G. Fallon	*33rd Middlesex*

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HOUSE . . . . . No. 4148

By Mr. Fallon of Malden, a petition (subject to Joint Rule 12) of Christopher G. Fallon relative to cast iron pipelines. Telecommunications, Utilities and Energy.

The Commonwealth of Massachusetts

In the Year Two Thousand Fourteen

An Act relative to cast iron pipelines in the commonwealth of Massachusetts.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Chapter 164 of the General Laws is hereby amended by inserting after section 105A the following section:-

Section 105B (a) As used in this section the following words shall, unless the context clearly requires otherwise, have the following meanings:-

"Angle of influence", a 45 degree angle above the horizontal starting from the bottom edge of the trench nearest to the main.

"Deep trench", an excavation that is more than 5 feet in depth.

"Department", the department of public utilities.

"Determine", to make appropriate investigation using scientific or other definitive methods, reach a decision based on sound engineering judgment, and be able to demonstrate, substantiate, and document the basis of the decision.

"Division", the pipeline engineering and safety division within the department.

"High-pressure cast-iron pipe", a distribution line in which the gas pressure in the pipe is higher than the pressure provided to the customer.

"Immediately", except in the case of a gas-related emergency, the first regular workday that the person can gain access to its facilities after the necessary state, city, or town permits are expeditiously obtained and the statutory notification requirements have been met.

“Low-pressure cast-iron pipe”, a distribution line in which the gas pressure in the pipe is substantially the same as the pressure provided to the customer.

“Person”, any individual, operator, gas company, municipal gas department or other person engaged in the distribution of gas within the commonwealth, firm, joint venture, partnership, corporation, association, state agency, municipality, municipal department, cooperative association, or joint stock association, and includes any trustee, receiver, assignee, personal representative thereof, every gas company, municipal gas department or other person engaged in the distribution of gas with in the Commonwealth of Massachusetts.

“Shallow trench”, an excavation 5 feet or less in depth.

“Sheeting”, a bracing or shoring used to support the sides of an excavation to prevent its collapse during an excavation project.

“Soft clay”, earth that is easily molded by hand, or that has an unconfined compressive strength of 0.5 to 1.0 kips per square foot.

“Strain”, the physical deformation of a body caused by the application of an external force, usually expressed as a percentage.

(b) The division shall regulate the operation, maintenance, replacement and abandonment of cast-iron pipelines that are used to distribute gas. This section shall apply to every gas company, municipal gas department or other person engaged in the distribution of gas within the commonwealth of Massachusetts.

(c) Any person engaged in the operation of a cast-iron pipeline may make a written request to the department for an exception to the provisions of this section in whole or in part.

The request shall justify why the exception should be granted and shall demonstrate why the exception sought does not derogate from the safety objectives of this section. The request shall include details on the need for the exception, specific information on the circumstances surrounding the requested exception, the provisions of the regulations from which exception is sought, and a description of any safety consequences that might result from the exception. Documentation in support of the request shall also 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 division or by the director's functional successor in the event of an internal reorganization of the department. Any such person aggrieved by a decision of the director regarding a request for an exception may appeal the director's decision to the public utilities commission. Any appeal shall be in writing and shall be made not later than 10 business days following issuance of the written decision of the director.

(d) Cast-iron pipe shall not be installed for the distribution of gas after April 12, 1991.

(e) Any written program and procedures required by this section shall (1) be included in the person's operating and maintenance plan required by 49 C.F.R. 192.603 and (2) be reviewed and modified by the person as necessary, provided that a review shall be conducted at least once each calendar year.

(g) Each person shall maintain accurate and readily accessible records to administer and verify the implementation of any regulations promulgated pursuant to this section or federal law. The records shall be maintained at a minimum for 5 consecutive years after the calendar year to which the records apply with copies to be forwarded to and filed with the department annually.

(h) Cast-iron pipe replacements required by this section, 220 CMR section 113.06 and section 113.07 are applicable to normal gas operations and maintenance activities such as repair of joint leaks and breaks, service installations or abandonments, main extensions or branch connections. The provisions of this section and 220 CMR 113.05 pertaining to the development and implementation of a program and procedures regarding the replacement and abandonment of cast-iron pipelines shall apply to normal gas operations and maintenance activities.

(i) (1) Each person with buried cast-iron pipelines shall develop and implement, in accordance with this section, a written, comprehensive program and procedures regarding the replacement and abandonment of cast-iron pipelines. The program and procedures shall include, but not be limited to:

(i) categorizing pipe by size and age;

(ii) determining the methodology for selecting and prioritizing pipeline segments for replacement or abandonment; and

(iii) replacing or abandoning within 10 years of April 12, 1991, all cast-iron pipe with a nominal diameter of 8 inches or less that is known, or has been determined, to have been installed before the year 1960 .

(2) Each person, to meet the requirements of this section and 220 CMR 113.05(1)(b), shall consider, but not be limited by, the following criteria:

(i) mechanical properties of the pipe, including the extent that graphitic corrosion (graphitization) has occurred and affected those properties;

(ii) chemical properties and corrosiveness of the soil in which the pipe is buried;

(iii) external loads to which the pipe is subjected;

(iv) operating pressure of the pipe;

(v) location or depth of the pipe;

(vi) leak history of pipe segments;

(vii) repair and maintenance history of pipe segments;

(viii) the probability and consequences of pipe rupture and gas leakage;

(ix) the existence of redundant gas mains in a street;

(x) re-pavement or reconstruction of streets in which pipelines are buried;

(xi) capacity of a pipeline to meet gas supply requirements; and

(xii) any known abnormal condition to which a pipe segment has been, or will be, subjected.

In considering the criteria in this subsection, each person shall give reasonable regard to incorporating each criterion into the person's program and procedures required by 220 CMR 113.05(1)(b). If any criterion is not included in the program and procedures, the person shall make a detailed explanation of the consideration given the excluded criterion and the reason for the exclusion.

(3) Each person shall establish a written time schedule for replacement or abandonment of cast-iron pipe. The schedule may be updated at any time during each year by the person and shall include, as practicable, the size, length and location of pipe segments to be replaced or abandoned for each of the next 3 consecutive calendar years with copies to be forwarded to and filed with the department annually .

(j) Cast-iron pipe, 8 inches or less in nominal diameter, that is exposed and undermined by a trench crossing the pipeline shall be replaced immediately:

(1) when there is less than 24 inches of cover; or

(2) when there is 24 inches or more of cover and the trench widths set forth in the maximum allowable trench width table are exceeded;

Maximum Allowable Trench Width Table

Depth of Cover:	2 to 4 feet	4 feet or more
Nominal Pipe Diameter		
4 inches or less	3 feet	4 feet
6 inches	4 feet	6 feet

8 inches	5.5 feet	8 feet

The trench width shall be determined by the distance along the centerline of the exposed pipe.

The minimum length of the replacement shall be equal to the trench width plus twice the distance from the top of the pipe to the bottom of the crossing trench, extending equally on both sides of the crossing trench.

When cast-iron pipe is intersected by a trench and the pipe must be replaced in accordance with 220 CMR 113.06, the pipe shall be surveyed daily for gas leakage and monitored daily until the pipe is replaced.

At the person's discretion, cast-iron pipe does not have to be replaced to comply with 220 CMR 113.06(1)(b) when a pipe segment is exposed and undermined in a shallow trench crossing, provided that: (1) the backfill supporting and surrounding the pipe shall be thoroughly compacted for the full trench width and for a distance equal to one-half of the trench width on both sides of the centerline of the pipe; (2) the backfill shall be free of objectionable material or debris, such as, but not limited to, pavement, frozen soil, trash and rocks; or (3) the backfilling techniques used to comply with 220 CMR 113.06(4)(a) and (b) shall be included in the person's operating and maintenance plan.

(k) (1) Cast-iron pipe, 8 inches or less in nominal diameter, that is adjacent to parallel excavation shall be replaced immediately, provided that the excavation exceeds 8 feet in length and a condition exists as set forth in 220 CMR 113.07(2), (3) or (4).

(2) A low-pressure cast-iron pipe that is parallel to a shallow trench excavation shall be replaced if: (i) the pipe is exposed and undermined; or (ii) at least one-half of the pipe diameter lies within the angle of influence; and the bottom of the excavation is below the water table or the excavation is in soft clay.

(3) A low-pressure cast-iron pipe that is parallel to a deep trench excavation and lies within the angle of influence shall be replaced if: (i) the pipe is exposed and undermined; or (ii) the pipe is totally, or in part, within 3 feet of the edge of the trench and sheeting that may have been used is not left in place; or (iii) the person determines that the strain on the pipe caused by, but not limited to, excessive ground movement or inadequate pipe support shall exceed 0.05 per cent (500 microstrain).

(4) A high-pressure cast-iron pipe that is parallel to a shallow or deep trench excavation shall be replaced if: (i) the pipe is exposed and undermined; or (ii) at least one-half of the pipe diameter lies within the angle of influence and sheeting that may have been used is not left in place.

(5) When cast-iron pipe is adjacent to a parallel excavation and must be replaced in accordance with 220 CMR 113.07, the pipe shall be surveyed daily for gas leakage and monitored daily until the pipe is replaced.

(6) Any pipe that replaces cast-iron pipe shall extend a safe distance, determined by a person, beyond the point where parallel excavation terminates.

(l) (1) Each person shall provide and implement a written plan of initial training to instruct all appropriate operating, maintenance, supervisory, and engineering personnel about: (i) the requirements of 220 CMR 113.00; (ii) the programs and procedures that are developed to comply with 220 CMR 113.00; (iii) the methodology for selecting, prioritizing, and scheduling cast-iron pipe for replacement or abandonment; and (iv) any operating and maintenance plans or procedures adopted to meet the requirements of 49 C.F.R. Part 192 pertaining to cast-iron pipe.

The initial training shall be completed within 210 days of the effective date of 220 CMR 113.00.

(2) A written plan of continuing instruction shall be developed and carried out at intervals of not more than 2 years to keep all appropriate personnel current on the knowledge and skills they have gained in the initial program and any modifications that have occurred as a result of the person's annual review of any program and procedures.