

7.73: Reducing Methane Emissions from Natural Gas Distribution Mains and Services

(1) Purpose, Scope and Authority. The purpose of 310 CMR 7.73 is to assist the Commonwealth in achieving the greenhouse gas emissions reduction goals adopted pursuant to M.G.L. c. 21N, § (3)(b) by reducing methane (CH<sub>4</sub>) emissions from natural gas distribution mains and services through the imposition of declining annual aggregate emission limits on certain sources of greenhouse gas emissions in the natural gas distribution pipeline sector in the Commonwealth. 310 CMR 7.73 is promulgated pursuant to M.G.L. c. 21N, § 3(d) and is also promulgated pursuant to M.G.L. c. 21A, §§ 2, 8 and 16, and M.G.L. c. 111, §§ 2C and 142A through 142E, to prevent and abate conditions of air pollution from the greenhouse gas emissions from the area sources specified in 310 CMR 7.73.

(2) Definitions. The terms used in 310 CMR 7.73 are defined in 310 CMR 7.73(2) and in 310 CMR 7.00: *Definitions*. Where a term is defined in 310 CMR 7.00: *Definitions* and 310 CMR 7.73 the definition in 310 CMR 7.73 shall apply.

Calendar Year means January 1<sup>st</sup> through December 31<sup>st</sup>.

Designated Representative means the person who has been authorized by the gas operator to represent and legally bind the owner or operator in matters pertaining to the 310 CMR 7.73.

Distribution Line means a pipeline other than a gathering or transmission line.

Gas Operator means every Massachusetts gas operator with a Gas System Enhancement Plan [applicable to its mains and services](#) approved by the Massachusetts Department of Public Utilities (DPU) pursuant to M.G.L. c. 164, § 145 as of August 11, 2017, [the corporate successor of such gas operator and/or the purchaser of the mains and services that are subject to a DPU-approved Gas System Enhancement Plan](#).

Main means a distribution line that serves as a common source of supply for more than one service.

Service means a distribution line that transports gas from a common source of supply to an individual customer, to two adjacent or adjoining residential or small commercial customers, or to multiple residential or small commercial customers served through a meter header or manifold. A service ends at the inlet of the customer meter or at the connection to a customer's piping, whichever is further upstream, or at the connection to customer piping if there is no meter.

(3) Applicability. Every Massachusetts gas operator.

(4) Annual CH<sub>4</sub> Emission Limits.

(a) Individual Operator Limits. For each calendar year specified in 310 CMR 7.73 (4)(a): *Tables 1 through 6*, each named gas operator shall ensure that the annual CH<sub>4</sub> emissions from all of its active mains and services, as calculated pursuant to 310 CMR 7.73 (5)(b)Z<sub>4</sub>, shall not exceed the following maximum allowable annual CH<sub>4</sub> emission limits:

Table 1 - Maximum Annual CH <sub>4</sub> Emission Limits - Boston Gas Company and Colonial Gas Company <i>each d/b/a National Grid</i>	
Calendar Year	Maximum Allowable CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
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▼	▼

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2020	108,647
<a href="#">2021</a>	<a href="#">106,817</a>
<a href="#">2022</a>	<a href="#">102,699</a>
<a href="#">2023</a>	<a href="#">98,561</a>
<a href="#">2024</a>	<a href="#">94,532</a>

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Table 2a - Maximum Annual CH <sub>4</sub> Emission Limits - Bay State Gas Company d/b/a Columbia Gas of Massachusetts and Eversource Gas Company of Massachusetts	
Calendar Year	Maximum Allowable CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
▼	▼
2020	24,399

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Table 2b - Maximum Annual CH <sub>4</sub> Emission Limits - Eversource Gas Company of Massachusetts	
Calendar Year	Maximum Allowable CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
<a href="#">2021</a>	<a href="#">25,341</a>
<a href="#">2022</a>	<a href="#">23,039</a>
<a href="#">2023</a>	<a href="#">20,825</a>
<a href="#">2024</a>	<a href="#">18,567</a>

Table 3 - Maximum Annual CH <sub>4</sub> Emission Limits - The Berkshire Gas Company	
Calendar Year	Maximum Allowable CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
▼	▼
2020	3,490
<a href="#">2021</a>	<a href="#">3,112</a>
<a href="#">2022</a>	<a href="#">2,945</a>
<a href="#">2023</a>	<a href="#">2,776</a>
<a href="#">2024</a>	<a href="#">2,605</a>

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Table 4 - Maximum Annual CH <sub>4</sub> Emission Limits - Fitchburg Gas and Electric Light Company d/b/a Unitil	
Calendar Year	Maximum Allowable CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
▼	▼
2020	1,981
<a href="#">2021</a>	<a href="#">1,713</a>
<a href="#">2022</a>	<a href="#">1,618</a>
<a href="#">2023</a>	<a href="#">1,541</a>
<a href="#">2024</a>	<a href="#">1,477</a>

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Table 5 - Maximum Annual CH <sub>4</sub> Emission Limits - Liberty Utilities (New England Natural Gas Company) Corp.	
Calendar Year	Maximum Allowable CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
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2020	5,445
<a href="#">2021</a>	<a href="#">5,066</a>
<a href="#">2022</a>	<a href="#">4,670</a>
<a href="#">2023</a>	<a href="#">4,273</a>
<a href="#">2024</a>	<a href="#">3,877</a>

Table 6 - Maximum Annual CH <sub>4</sub> Emission Limits - NSTAR Gas Company d/b/a Eversource Energy	
Calendar Year	Maximum Allowable CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
2020	25,358
<a href="#">2021</a>	<a href="#">23,939</a>
<a href="#">2022</a>	<a href="#">22,212</a>
<a href="#">2023</a>	<a href="#">20,486</a>
<a href="#">2024</a>	<a href="#">18,756</a>

(b) Sum of Individual Operator Limits. For each calendar year, 310 CMR 7.73(4)(b): [Table 7](#) lists the sum of the annual CH<sub>4</sub> emission limits from all active mains and services of gas operators named in 310 CMR 7.73(4)(a): [Tables 1](#) through [6](#).

Table 7 - <u>Sum of Annual CH<sub>4</sub> Emission Limits from Mains and Services of Gas Operators named in 310 CMR 7.73(4)(a): Tables 1 through 6</u>	
Calendar Year	CH <sub>4</sub> Emissions (metric tons of carbon dioxide equivalent)
2020	169,320
<a href="#">2021</a>	<a href="#">165,988</a>
<a href="#">2022</a>	<a href="#">157,183</a>
<a href="#">2023</a>	<a href="#">148,468</a>
<a href="#">2024</a>	<a href="#">139,814</a>

(c) CH<sub>4</sub> Emissions Set-aside, Aggregate Limits and Petition Process for Modifying CH<sub>4</sub> Emission Limit.  
 1. The Department has set-aside the quantities of CH<sub>4</sub> in 310 CMR 7.73(4)(c): [Table 8](#) for each calendar year for gas operators that petition to modify their limits in 310 CMR 7.73(4) based on 310 CMR 7.73(4)(c)3. [For each calendar year specified in 310 CMR 7.73\(4\)\(c\): Table 8, the annual CH<sub>4</sub> emission limits from all active mains and services of gas operators named in 310 CMR 7.73\(4\)\(a\): Tables 1 through 6 shall not exceed the maximum allowable annual aggregate CH<sub>4</sub> emission limits in 310 CMR 7.73\(4\)\(c\): Table 8.](#)

Table 8 - <u>CH<sub>4</sub> Emissions Set-aside and Maximum Annual Aggregate CH<sub>4</sub> Emission Limit</u>		
Calendar Year	CH <sub>4</sub> Emissions Set-aside	Maximum Allowable Annual Aggregate CH <sub>4</sub> Emission Limit
2020	39,509	208,829

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<a href="#">2021</a>	<a href="#">37,990</a>	<a href="#">203,978</a>
<a href="#">2022</a>	<a href="#">37,550</a>	<a href="#">194,733</a>
<a href="#">2023</a>	<a href="#">37,114</a>	<a href="#">185,576</a>
<a href="#">2024</a>	<a href="#">36,682</a>	<a href="#">176,496</a>

2. Upon written petition from a gas operator, the Department may modify the CH<sub>4</sub> emission limits and allocate additional CH<sub>4</sub> in excess of the limits in 310 CMR 7.73(4)(a) provided that the set-aside amount of CH<sub>4</sub> in each calendar year in 310 CMR 7.73(4)(c): [Table 8](#) is not exceeded.
3. The basis for the petition shall be [the Annual Report for Calendar Year 20\[XX\] Gas Distribution System submitted by the gas operator to the United States Department of Transportation Pipeline and Hazardous Materials Safety Administration \(PHMSA\)](#).
4. Requirements for the petition.
  - a. [The gas operator shall submit the petition to the Department no later than the April 15<sup>th</sup> after the end of the calendar year for which the gas operator seeks to have additional CH<sub>4</sub> allocated, and include a copy of the Annual Report submitted to PHMSA.](#)
  - b. [The petition shall be signed and certified in accordance with the requirements at 310 CMR 7.73\(5\)\(b\)9.](#)
5. In its sole discretion, the Department will approve or deny the petition in writing within 60 days of receipt of the petition. During the 60 day review period, the Department may request additional information from the gas operator. Depending on when the Department receives the information, and the volume of the information, the Department may extend the 60 day review period.
  - a. If the Department approves the petition, calculates a modified or new limit, and/or allocates additional CH<sub>4</sub>, the modified CH<sub>4</sub> emission limit(s) in the approval letter shall be enforceable in lieu of the CH<sub>4</sub> emission limit in 310 CMR 7.73(4)(a).
  - b. If the Department denies the petition, the gas operator may request an adjudicatory hearing on the decision, by filing a notice of claim with the Department within 21 days of the date of issuance of the Department's denial of the petition pursuant to 310 CMR 1.01: *Adjudicatory Proceeding Rules for the Department of Environmental Protection.*

(5) Annual Reporting Requirements.

- (a) By April 15, 2021, and on April 15<sup>th</sup> of each year thereafter, each gas operator must submit an annual report to the Department for emissions that occurred during the previous calendar year.
- (b) The annual report shall be submitted electronically in a format specified by the Department, and must contain all of the following information:
  1. The gas operator's name, physical address, and mailing address;
  2. The location of records and documents;
  3. The name and contact information including e-mail address and telephone number of the designated representative submitting the report, and the person(s) primarily responsible for preparing the report;
  4. The year for which the information is submitted;
  5. The miles of mains and number of services owned, leased, operated, or controlled by the gas operator and located in Massachusetts by each material type listed in 310 CMR 7.73(5)(b); [Table 9](#), as recorded in the [Annual Report to PHMSA](#);
  6. [The miles of mains and number of services owned, leased, operated, or controlled by the gas operator and located in Massachusetts by age and each material type listed in 310 CMR 7.73\(5\)\(b\): Table 9.](#)

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    - b. An increase in the growth of distribution system pipeline miles or services beyond that included in the limits in 310 CMR 7.73(4)(a). ¶
    - c. Other unanticipated changes in pipeline miles or number of services, by material type, discovered outside a GSEP proceeding.
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7. The number of metric tons of CH<sub>4</sub>, in carbon dioxide equivalents, by each material type listed in 310 CMR 7.73(5)(b)8.: *Table 9*, emitted from mains and services owned, leased, operated, or controlled by the gas operator and located in Massachusetts during the year, as calculated by multiplying the miles of mains and number of services by the appropriate emission factor in 310 CMR 7.73(5)(b)8.: *Table 9*;

8. Any other information requested by the Department; and

9. The authorized signature of a designated representative of the gas operator, and the following certification statement: "I certify that I have personally examined the report for this facility and am familiar with the information contained in that report and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

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Table 9 - Methane Emission Factors by Material Type	
Mains	Metric tons of carbon dioxide equivalent/ mile-year
Cast or wrought iron	28.663225
Ductile iron	
Copper	
Steel, cathodically unprotected and uncoated	20.281978
Steel, cathodically unprotected and coated	
Other	
Steel, cathodically protected and uncoated	1.804054
Steel, cathodically protected and coated	
Plastic	0.215583
Services	Metric tons of carbon dioxide equivalent/ service-year
Steel, cathodically unprotected and uncoated	0.129589
Steel, cathodically unprotected and coated	
Cast or wrought iron	
Ductile iron	
Other	
Steel, cathodically protected and uncoated	0.055982
Steel, cathodically protected and coated	
Plastic	0.005136
Copper	0.121920

(6) **Monitoring, Q/A, and Recordkeeping Requirements.** All gas operators shall retain for five years documentation sufficient to demonstrate compliance with 310 CMR 7.73 and shall provide such documentation to the Department on request. The documentation shall be submitted in the format and within the time limit requested by the Department.

(7) **Compliance Verification.** The Department may verify compliance with 310 CMR 7.73 by conducting inspections, requesting information and records and requiring the collection of information not previously required; provided that 310 CMR 7.73(7) does not limit the authority of the Department as otherwise provided by law or in an authorization, determination, modification, permit, or other approval, or by the terms of any order or other enforcement document.

(a) Access to Information. Where necessary to ascertain compliance with 310 CMR 7.73 including actual or potential CH<sub>4</sub> emissions, the Department may request of a gas operator information or records. The gas operator shall, within a reasonable time, furnish the requested information or records and shall permit Department personnel or authorized representatives to have access to and to take images of such records.

(b) Requirement to Collect Information. When the Department has reason to believe that a gas operator has exceeded its CH<sub>4</sub> emission limit or violated any other condition in 310 CMR 7.73, the Department may require the gas operator to submit the necessary information or records to determine compliance. In doing so, the Department may require a gas operator to:

1. Perform audits on CH<sub>4</sub> emissions records using standard procedures and methods;
2. Quantify CH<sub>4</sub> emissions in accordance with the procedures and methods as the Department may prescribe;
3. Make periodic reports to the Department, as necessary, to assure continuous compliance with 310 CMR 7.73; and
4. Maintain other records and provide any other information as the Department might reasonably require.

(8) Enforcement.

(a) If a gas operator exceeds the Maximum Annual CH<sub>4</sub> Emission limits set forth in the applicable table provided in 310 CMR 7.73(4)(a), [as amended by a petition approved under 310 CMR 7.73\(4\)\(c\)5.a.](#), any such excess emissions shall be deemed to be a release of air pollutants into the environment without the authorization or approval of the Department, and shall be presumed to constitute a significant impact to public health, welfare, safety, and the environment.

(b) The Department shall enforce the requirements of 310 CMR 7.73 in accordance with applicable federal and Massachusetts law, including but not limited to M.G.L. c. 21A, § 16, 310 CMR 5.00: *Administrative Penalty*, M.G.L. c. 111, § 2C, §§ 142 A through 142M; and M.G.L. c. 21N, § 7(d).

(9) Program Review. Not later than December 31, 2024, the Department shall complete a review, including an opportunity for public comment on the program review, of the requirements of 310 CMR 7.73 to determine whether the program should be amended or extended. This review shall evaluate whether to require the use of feasible technologies to detect and quantify gas leaks and any other information relevant to review of the program.

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