

# Summary

## DPU 18-GLR-01

# Gas Leaks Report

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RELEASED DECEMBER 27, 2018

GAS LEAKS ALLIES

DAVID ZEEK

# There Were 16,778 Gas Leaks in Massachusetts at Year End 2017

DPU publishes an annual report compiling gas leaks data collected from the gas companies

18-GLR-01 Prevalence of Natural Gas Leaks in the Natural Gas System

Latest report released Dec. 27, 2018 covers gas leaks data for CY2017

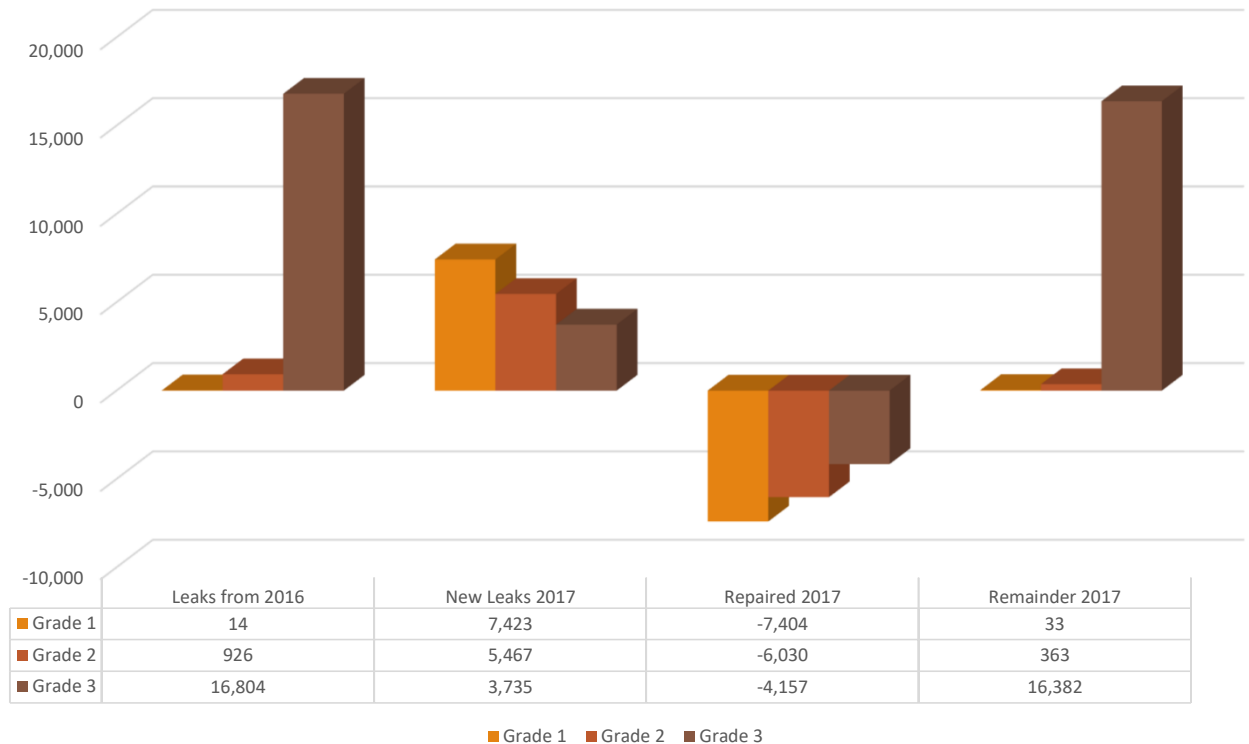
48% of leaks in 2017 were new leaks

78% of new leaks were hazardous (Grade 1 or Grade 2)

98% of remaining leaks are Grade 3 current law/regulations do not require that they be repaired.

This may change. DPU has proposed changes to its regulation "220 CMR 114 Uniform Natural Gas Leaks Classification" to require repair of the largest Grade 3 leaks.

2017 Gas Leaks



Grade 1 Grade 2 Grade 3

## Cost to Repair Gas Leaks Remaining at EOY 2017

Also collected and reported in DPU 18-GLR-01

Total repair cost: \$70M

Average cost: \$4,196 per leak

\* Eversource only provided a repair cost for its 34 Grade 2 leaks. \$ Total is extrapolated for all 3,653 leaks.

Local Distribution Company	Total Leaks EOY 2017	\$ Total to Fix	\$ Average to Fix
Berkshire	277	\$1,271,500	\$4,590
Blackstone	0	\$0	n/a
Columbia Gas	2,497	\$36,798,585	\$14,737
Eversource*	3,653	\$4,459,346	\$1,221
Holyoke	219	\$763,215	\$3,485
Liberty	602	\$1,511,020	\$2,510
Middleborough Gas	1	\$2,982	\$2,982
National Grid	9,318	\$24,800,000	\$2,662
Unitil	34	\$150,000	\$4,412
Wakefield	126	\$350,253	\$2,780
Westfield	51	\$286,834	\$5,624
<b>Totals</b>	<b>16,778</b>	<b>\$70,393,735</b>	<b>\$4,195.60</b>

# Lost And Unaccounted For Gas

DPU 18-GLR-01 includes estimates for lost and unaccounted-for natural gas associated with gas leakage

based on data submitted by the gas companies to the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration.

The chart includes data from prior years DPU Gas Leaks Reports.

<b>Local Distribution Company</b>	<b>LAUF Leakage 2017</b> MCF (thousand cubic feet)	<b>LAUF Leakage 2016</b> MCF (thousand cubic feet)	<b>LAUF Leakage 2015</b> MCF (thousand cubic feet)
Berkshire	34,544	36,152	35,167
Blackstone	234	248	241
Columbia Gas	232,514	247,922	241,169
Eversource	214,512	222,805	216,737
Holyoke	18,946	20,179	19,629
Liberty	52,805	214,998	209,142
Middleborough Gas	3,531	17,736	17,253
National Grid	892,986	897,227	872,789
Unitil	1,339	1,995	1,941
Wakefield	4,231	4,796	4,665
Westfield	2,583	94,654	92,076
<b>Totals</b>	<b>1,458,224</b>	<b>1,758,712</b>	<b>1,710,809</b>

# Methane Emissions

DPU 18-GLR-01 includes reports of methane emissions associated with leakage in the natural gas system.

Reported in accordance with the Department of Environmental Protection's 310 CMR 7.71, Reporting of Greenhouse Gas Emissions, most recently amended in August 2017.

The chart includes data from prior years DPU Gas Leaks Reports.

Local Distribution Company	Methane Emissions 2017 MT (Metric Tons)	Methane Emissions 2016 MT (Metric Tons)	Methane Emissions 2015 MT (Metric Tons)
Berkshire	549.00	606.00	726
Blackstone	4.70	4.80	555
Columbia Gas	4,530.79	4,803.87	5,136
Eversource	4,427.09	4,609.77	4,972
Holyoke	366.20	378.70	396
Liberty	27,895.00	1,185.00	1,247
Middleborough Gas	58.16	58.90	0
National Grid	17,350.00	15,864.00	16,846
Unitil	31.20	46.52	20
Wakefield	81.81	93.10	63
Westfield	54.17	1.79	1
<b>Totals</b>	<b>55,348.12</b>	<b>27,652.45</b>	<b>29,962</b>

# DPU 18-GLR-01 Natural Gas Leaks in the Natural Gas System for CY2017

Gas Leaks Local Distribution Company	Leaks Carried forward from 2016				YR 2017 New Gas Leaks				YR 2017 Total Gas Leaks				YR 2017 Leaks Repaired or Eliminated				EOY 2017 Remaining Gas Leaks			
	Grade 1	Grade 2	Grade 3	Total	Grade 1	Grade 2	Grade 3	Total	Grade 1	Grade 2	Grade 3	Total	Grade 1	Grade 2	Grade 3	Total	Grade 1	Grade 2	Grade 3	Total
Berkshire	0	69	303	372	60	166	68	294	60	235	371	666	60	174	155	389	0	61	216	277
Blackstone	0	0	0	0	0	2	31	33	0	2	31	33	0	2	31	33	0	0	0	0
Columbia Gas	0	525	2,263	2,788	1,384	1,835	543	3,762	1,384	2,360	2,806	6,550	1,378	1,586	1,089	4,053	6	774	1,717	2,497
Eversource	0	24	4,011	4,035	699	662	777	2,138	699	686	4,788	6,173	699	652	1,169	2,520	0	34	3,619	3,653
Holyoke	0	0	207	207	49	48	159	256	49	48	366	463	44	62	138	244	5	-14	228	219
Liberty	0	52	498	550	103	153	136	392	103	205	634	942	104	171	65	340	-1	34	569	602
Middleborough Gas	0	0	0	0	6	8	2	16	6	8	2	16	6	7	2	15	0	1	0	1
National Grid	14	182	9,336	9,532	4,962	2,465	1,951	9,378	4,976	2,647	11,287	18,910	4,952	3,223	1,417	9,592	24	-576	9,870	9,318
Unitil	0	10	32	42	149	82	25	256	149	92	57	298	150	95	19	264	-1	-3	38	34
Wakefield	0	60	90	150	3	15	17	35	3	75	107	185	3	28	28	59	0	47	79	126
Westfield	0	4	64	68	8	31	26	65	8	35	90	133	8	30	44	82	0	5	46	51
<b>Totals</b>	14	926	16,804	17,744	7,423	5,467	3,735	16,625	7,437	6,393	20,539	34,369	7,404	6,030	4,157	17,591	33	363	16,382	16,778

78% of new leaks are dangerous

48% of leaks are new

98% of remaining leaks are Grade 3

# Key Gas Leaks Legislation

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Three acts address gas leaks under Massachusetts General Law, Chapter 164, Manufacture and Sale of Gas and Electricity, Section 144 and Section 147.

- <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter164/Section144> etc.
- Section 144: Uniform natural gas leaks classification system; grading of reported natural gas leaks; projects on public ways; school zones; gas company response and reporting
- Section 147: new section re Lost And Unaccounted For gas [LAUF]

An act relative to natural gas leaks (Massachusetts Law 2014, Chapter 149, H.4165)

- <https://malegislature.gov/Bills/188/House/H4164>
- Established requirement for gas companies to capture data on gas leaks and report it to the Department of Public Utilities (DPU)
- Defined grades of gas leaks:
  - (1) Gas companies shall assess a grade to all reported natural gas leaks based on the system provided in this section.
  - (2) A Grade 1 leak shall be a leak that represents an existing or probable hazard to persons or property. Grade 1 leaks require repair as immediately as possible and continuous action until the conditions are no longer hazardous. The gas company shall immediately schedule a completion of repairs and the condition shall be kept under continuous surveillance until the hazard or source of the leak is eliminated. 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.
  - (3) A Grade 2 leak shall be a leak that is recognized as non-hazardous 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 main 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 6 months until eliminated; provided, however, that the frequency of reevaluation shall be determined by the location and magnitude of the leakage condition.
  - (4) A Grade 3 leak shall be a leak that is recognized as non-hazardous 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 main 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.

An act to promote energy diversity (Massachusetts Law 2016, Chapter 188, H.4568)

- <https://malegislature.gov/Bills/189/House/H4568>
- Directed DPU, in consultation with the Department of Environmental Protection, to establish criteria to identify the environmental impact of Grade 3 gas leaks and to establish a plan to repair leaks that “have a significant environmental impact” and to “promulgate rules regarding the timeline and acceptable methods for remediation and repair” of such Grade 3 leaks.

An Act to advance clean energy (Massachusetts Law 2018, Chapter 190, H.4857)

- <https://malegislature.gov/Bills/190/House/H4857>
- DPU shall issue regulations requiring all gas companies to report LAUF gas for each year and to identify and measure all sources and locations where LAUF gas occurs in the natural gas systems.
- DPU may grant waivers from regulatory requirements for the development of innovative projects to reduce lost and unaccounted for gas.

2014: Repair of Grade 1 and Grade 2 leaks. 2016: Environmentally significant Grade 3. 2018: LAUF.