

SoCalGas, June 14, 2019

Rulemaking (R.) 15-01-008 to Adopt Rules and Procedures Governing Commission Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas Leaks Consistent with Senate Bill 1371, Leno.

In Response to Data Request, R15-01-008 2019 June Report
Appendix 8; Rev. 03/29/19

System Wide Leak Rate Data

1/1/2018 - 12/31/2018

The highlighted cells show the volumes that are summed together as the throughput for calculating the system wide leak rate.

Gas Storage Facilities:

Average Close of the Month Cushion Gas Storage Inventory (Mscf)	Average Close of the Month Working Gas Storage Inventory (Mscf)	Total Annual Volume of Injections into Storage (Mscf)	Total Annual Volume of Gas Used by the Gas Department (Mscf)	Total Annual Volume of Withdrawals from Storage (Mscf)	Explanatory Notes / Comments
141,087,404	58,961,281	47,710,880	711,204	42,408,447	

Transmission System:

Total Annual Volume of Gas Used by the Gas Department (Mscf)	Total Annual Volume of Gas Transported to or for Customers* in State (Mscf)	Total Annual Volume of Gas Transported to or for Customers* out of State (Mscf)	Total Annual Volume of Gas Transported to utility-owned or third-party storage fields for injection into storage (Mscf)	Explanatory Notes / Comments
1,140,232	729,062,056	11,126,879	47,710,880	

Distribution System:

Total Annual Volume of Gas Used by the Gas Department (Mscf)	Total Annual Volume of Gas Transported to or for Customers* in State (Mscf)	Total Annual Volume of Gas Transported to or for Customers* out of State (Mscf)	Explanatory Notes / Comments
210,238	729,062,056	-	

*The term customers includes anyone that the utility is transporting gas for, including customers who purchase gas from the utility.

Customers can be anyone including residential, businesses, other utilities, gas transportation companies, etc.

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Summary Tables:

Natural Gas Properties	Average Mole Percent	Explanatory Notes / Comments
Methane	94% Interstate supplies	
Carbon Dioxide	0.83% Interstate supplies	
Ethane	3.82% Interstate supplies	
C3+	0.30% Interstate supplies	
C6+	0.01% Interstate supplies	
Oxygen	0.20% Estimated to limit, Not Tested at all locations	
Hydrogen	Not Tested	
Sulfur	0.00% Estimated to include odorant	
Water	0.01% Estimated to limit	
Carbon Monoxide	Not Tested	
Particulate Matter	Not Tested	
Inert Gas	1.49% Interstate supplies	
Odorant	0.00% Estimated guideline rate	

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Summary Tables:

System Categories	Emission Source Categories	Fugitive or Vented	For Reference Only: 2015 Baseline Emissions (Mscf)	2017 Total Annual Volume of Leaks & Emissions (Mscf)	2017 Total Annual Count of Leak & Emission Items	2018 Total Annual Volume of Leaks & Emissions (Mscf)	2018 Total Annual Count of Leak & Emission Items	Emission Change for Year Over Year Comparison from 2017 to 2018 (Mscf)	Percentage Change for Year Over Year Comparison from 2017 to 2018	Count Change for Year Over Year Comparison from 2017 to 2018	Percentage Count Change for Year Over Year Comparison from 2017 to 2018	Emission Change for Year Over Year Comparison from 2015 to 2018 (Mscf)	Percentage Change for Year Over Year Comparison from 2015 to 2018	Explanation for Significant Percentage Change for Year Over Year Comparison from 2017 to 2018
Transmission Pipelines	Pipeline Leaks	Fugitive	1,324	1,295	Leak count: 5 Total System Mileage: 3,448	1,289	Leak count: 0 Total System Mileage: 3,433	(6)	(0.4%)	(15)	(0.4%)	-35	(2.6%)	The Transmission Pipeline Mileage decreased by 15 miles.
	All Damages	Fugitive	0	2,000	Number of emission items: 1	3,913	Number of emission items: 1	1,913	95.7%	-	0.0%	3,913	NA	Each year one damage occurred but the amount of emissions varies with the nature and extent of the damage.
	Blowdowns	Vented	199,970	165,358	Number of blowdown events: 1,638	141,863	Number of blowdown events: 2,491	(23,495)	(14.2%)	853	52.1%	-58,107	(29.1%)	Blowdowns emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed.
	Component Emissions	Vented	0	7,393	Number of devices: 291	6,599	Number of devices: 289	(794)	(10.7%)	(2)	(0.7%)	6,599	NA	The decrease in emissions is due to field verification of component emissions as well as replacement of some emitting devices.
	Component Leaks	Fugitive	NA	0	Number of leaks: 68	0	Number of leaks: 79	11	16.2%	11	16.2%	NA	NA	
Transmission M&R Stations	Odorsizers	Vented	2,434	2,346	Number of units: 242	2475	Number of units: 251	129	5.5%	9	3.7%	41	1.7%	
	Station Leaks & Emissions	Fugitive	340,142	308,458	Number of facilities: 10,869	335,401	Number of facilities: 11,813	26,943	8.7%	944	8.7%	-4,741	(1.4%)	
	Blowdowns	Vented	95	320	Number of blowdown events: 3,515	24,738	Number of blowdown events: 4,224	24,418	7,629.4%	709	20.2%	24,643	25,940.0%	Blowdown is activity based and an increase in project activity occurred in 2018 compared with previous years. Blowdown volume varies by activity, depending on the type of work performed.
	Compressor Emissions	Vented	34,810	47,392	Number of compressors: 37	55,581	Number of compressors: 37	8,189	17.3%	-	0.0%	20,771	59.7%	The increase in the emissions can be attributed to the compressor rod packing at one facility. The rod packing was subsequently replaced in 2018.
	Compressor Leaks	Fugitive	NA	N/A	N/A	N/A	N/A	NA	NA	-	0.0%	NA	NA	
Transmission Compressor Stations	Blowdowns	Vented	7,268	9,613	Number of blowdown events: 675	10,759	Number of blowdown events: 634	1,446	11.9%	(41)	(6.1%)	48,313	664.7%	Blowdowns emissions are a function of activity level. Blowdown volume varies by activity and station, depending on the type of work performed.
	Component Emissions	Vented	NA	4,301	Number of devices: 207	4,301	Number of devices: 207	0	0.0%	-	0.0%	NA	NA	
	Component Leaks	Fugitive	8,430	15,044	Number of leaks: 350	13,053	Number of leaks: 978	(1,991)	(13.2%)	628	179.4%	4,623	54.8%	Quarterly survey was performed at compressor stations in 2018, compared with annual survey in previous years.
	Storage Tank Leaks & Emissions	Vented	0	275	Number of emission items: 7	275	Number of emission items: 7	-	0.0%	-	0.0%	275	NA	
	Pipeline Leaks	Fugitive	797,426	698,058	Number of known leaks: 18,441 Estimated number of unknown leaks: 3,899 Total number of leaks: 22,340	597,187	Number of known leaks: 16,854 Estimated number of unknown leaks: 2,289 Total number of leaks*: 19,143	(100,861)	(14.4%)	(3,197)	(14.3%)	-200,229	(25.1%)	The variation is due to variables in areas surveyed, variability in the operating environment, and variation in the rate at which system leaks develop. Leak inventory reduction efforts and increased leak survey may have influenced this decrease in emissions. <ul style="list-style-type: none"> The # of Unknown Leaks for all the categories of Plastic material was calculated using the Leak Rate of 2018 only as opposed to the last 3-year average leak rate because this is the first time the template asks for the Vintage Plastic data separately. The # of Unknown Leaks of Main/Service of protected and unprotected steel was calculated using the Average of the last 2-year average leak rate as opposed to the last 3-year average leak rate because the equation used to calculate the number of unknown leaks in 2016 was overstating the rate when using actual survey miles and it was corrected in 2017.
Distribution Main & Service Pipelines	All Damages	Fugitive	78,646	75,722	Number of damages: 3,455	79,593	Number of damages: 3,683	3,871	5.1%	228	6.6%	947	1.2%	This is normal variation based on damage severity and the damaged asset's dimensions.
	Blowdowns	Vented	4,828	1,098	Number of blowdown events: 3,160	488	Number of blowdown events: 3,113	(610)	(55.6%)	(47)	(1.5%)	-4,340	(89.9%)	In 2017 one high pressure project accounted for over half of the emission.
	Component Emissions	Vented	NA	0	Number of emission items: 0	0	Number of emission items: 0	-	0.0%	-	-	NA	NA	
	Component Leaks	Fugitive	3,281	147	Number of leaks: 12	2,934	Number of leaks: 166	2,792	1,962.8%	-	-	-347	(10.6%)	
	Station Leaks & Emissions	Fugitive	340,729	348,097	Number of stations: 1,963	345,340	Number of stations: 1,956	(2,757)	(0.8%)	(7)	(0.4%)	4,611	1.4%	
Distribution M&R Stations	All Damages	Fugitive	NA	23	Number of damages: 1	0	Number of damages: 0	(23)	(100.0%)	-	-	NA	NA	This is normal variation based on damage severity and the damaged asset's dimensions.
	Blowdowns	Vented	94	100	Number of blowdowns: 18,529	123	Number of blowdowns: 19,323	23	22.8%	794	4.3%	29	30.3%	Blowdowns emissions are a function of activity level. Blowdown volume varies by activity and station, depending on the type of work performed.
	Meter Leaks	Fugitive	846,235	855,950	Number of meters: 5,962,376	861,557	Number of meters: 6,000,269	5,607	0.7%	37,893	0.6%	15,322	1.8%	
Customer Meters	All Damages	Fugitive	NA	23,733	Number of damages: 1,869	22,192	Number of damages: 1,721	(1,541)	(6.5%)	(148)	(7.9%)	NA	NA	
	Vented Emissions	Vented	2,063	1,303	Number of blowdown events: 1,011,289	913	Number of blowdown events: 535,114	(390)	(29.9%)	(476,175)	(47.1%)	-1,150	(55.7%)	Blowdowns emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed.
Underground Storage	Storage Leaks & Emissions	Fugitive	3,146	2,083	Number of emissions items: 4,846	2,637	Number of emissions items: 1898	554	26.6%	(2,948)	(60.8%)	-509	(16.2%)	In 2018 leak duration was based on actual data rather than the 5 day average used in 2017.
	Compressor Emissions	Vented	84,609	31,170	Number of compressors: 38	9,641	Number of compressors: 38	(21,529)	(69.1%)	-	0.0%	-74,968	(88.6%)	The emissions reductions can be attributed to decreased operating hours and an increased accuracy in emissions measurement.
	Compressor Leaks	Fugitive	NA	N/A	N/A	This worksheet was combined with Component Leaks worksheet in 2018 template.								
	Blowdowns	Vented	10,812	7,276	Number of blowdown events: 3,713	3,933	Number of blowdown events: 4914	(3,343)	(45.9%)	1,201	32.3%	-6,879	(63.6%)	The increase in events and decrease in emissions are due to blowdown reduction activities.
	Component Emissions	Vented	NA	6,933	Number of devices: 331	5,281	Number of devices: 252	(1,652)	(23.8%)	(79)	(23.9%)	NA	NA	The decrease in emission and count change can be attributed to the conversion from natural gas to either compressed air or electric driven components.
Unusual Large Leaks	Component Leaks	Fugitive	107	20,870	Number of leaks: 682	21,989	Number of leaks: 882	1,119	9.4%	200	29.3%	21,882	20,450.5%	The increased emissions and count can be attributed to more frequent inspections.
	Dehydrator Vent Emissions	Fugitive	13,402	0	Number of facilities: 4	0	Number of facilities: 4	-	-	-	0.0%	-13,402	(100.0%)	These facilities all have vapor recovery or vapor control units and therefore do not emit natural gas.
	(Description)		3,630,000	60,159					-100%			-3,630,000	(100.0%)	
	Total		6,409,851	2,696,512	NA	2,554,065	NA	(142,447)	-5%	NA	NA	-3,855,786	(60.2%)	