

SoCalGas, June 15, 2020
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 2020 June Report
Appendix 8: Rev. 03/31/20

Summary Tables:

System Categories	Emission Source Categories	Fugitive or Vented	For Reference Only: 2015 Baseline Emissions (Mscf)	2018 Total Annual Volume of Leaks & Emissions (Mscf)	2018 Total Annual Count of Leak & Emission Items	2019 Total Annual Volume of Leaks & Emissions (Mscf)	2019 Total Annual Count of Leak & Emission Items	Emission Change for Year Over Year Comparison from 2018 to 2019 (Mscf)	Percentage Change for Year Over Year Comparison from 2018 to 2019	Count Change for Year Over Year Comparison from 2018 to 2019	Percentage Count Change for Year Over Year Comparison from 2018 to 2019	Emission Change for Year Over Year Comparison from 2015 to 2019 (Mscf)	Percentage Change for Year Over Year Comparison from 2015 to 2019	Explanation for Significant Percentage Change for Year Over Year Comparison from 2018 to 2019
Transmission Pipelines				1,289	Leak count: 0 Total System Mileage: 3,433	1,271	Leak count: 22 Total System Mileage: 3385							Transmission Pipeline Mileage decreased by 48 miles. Regarding the higher count of the leaks, most of the leaks are related to a Transmission Integrity Mgmt. Plan project on Line 235W to re-establish integrity of Maximum Allowable Operating Pressure, in addition to an in-line inspection project on the same line.
	Pipeline Leaks	Fugitive	1,324					(18)	(1.4%)	(48)	(1.4%)	-53	(4.0%)	
	All Damages	Fugitive	0	3,913	Number of emission items: 1	0	Number of emission items: 0	(3,913)	(100.0%)	(1)	(100.0%)	0	NA	No Reported Damages in year 2019
	Blowdowns	Vented	199,970	163,672	Number of blowdown events: 2,493	132,921	Number of blowdown events: 2,793	(30,751)	(18.8%)	300	12.0%	-67,049	(33.5%)	Blowdowns emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed. Emission reductions can be attributed to blowdown reduction efforts, as well as a lower count of high pressure construction projects.
	Component Emissions	Vented	0	6,599	Number of devices: 289	7,165	Number of devices: 333	566	8.6%	44	15.2%	7,165	NA	The increase in emissions is due to field verification of components, resulting in higher component count.
	Component Leaks	Fugitive	NA	0	Number of leaks: 79	0	Number of leaks: 51	-	-	(28)	(35.4%)	NA	NA	
Transmission M&R Stations	Odorizers	Vented	2,434	2475	Number of units: 251	2,592	Number of units: 255	117	4.7%	4	1.6%	158	6.5%	
	Station Leaks & Emissions	Fugitive		335,401	Number of facilities: 11,813	242,239	Number of facilities: 11,384	(93,162)	(27.8%)	(429)	(3.6%)	-97,903	(28.8%)	The decrease in emissions and numbers of facilities is the result of a field verification project. In prior years, facility counts were overstated due to misclassification of assets as well as including facilities that had been previously abandoned/decommissioned.
Transmission Compressor Stations	Blowdowns	Vented	95	2,929	Number of blowdown events: 4,222	1,482	Number of blowdown events: 4,728	(1,447)	(49.4%)	506	12.0%	1,387	1,460.0%	Blowdowns emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed.
	Compressor Emissions	Vented	34,810	43,513	Number of compressors: 38	3,914	Number of compressors: 38							The high emissions of 2018 in can be attributed to the compressor rod packing at one facility. The rod packing was subsequently replaced. Moreover, 2019 had fewer operating hours The 2018 data columns have been updated with corrected values. The values originally reported inadvertently included data from an incorrect time period An additional tab was added to Appendix 3 titled "2019 Corrected Comp Vented Emis" to show the updated 2018 emissions from Compressor Vented Emissions
	Compressor Leaks	Fugitive	NA	N/A	N/A		N/A	NA	NA			NA	NA	
	Blowdowns	Vented	7,268	10,979	Number of blowdown events: 736	13,825	Number of blowdown events: 770							Blowdowns emissions are a function of activity level. Blowdown volume vary by activity and facility, depending on the type of work performed. Moreover, station modernization events took place in 2019 which had associated blowdowns. The 2018 data columns have been updated with corrected values. The values originally reported inadvertently included data from an incorrect time period An additional tab was added to Appendix 3 titled "2019 Corrected Blowdowns" to show the updated 2018 emissions from Blowdowns
	Component Emissions	Vented	NA	4,301	Number of devices: 207	4,287	Number of devices: 206	2,846	(6.3%)	34	(0.3%)	NA	NA	
	Component Leaks			10,784	Number of leaks: 812	5,858	Number of leaks: 276							Leak survey and repair was accelerated due to the CARB Oil & Gas Regulation. The 2018 data columns have been updated with corrected values. The values originally reported inadvertently included data from an incorrect time period An additional tab was added to Appendix 3 titled "2019 Corrected Blowdowns" to show the updated 2018 emissions from Compressors & Components Leaks
Distribution Main & Service Pipelines	Storage Tank Leaks & Emissions	Fugitive	8,430					(4,926)	(45.7%)	(536)	(66.0%)	-2,572	(30.9%)	
		Vented	0	275	Number of emission items: 7	165	Number of emission items: 5	(110)	(40.1%)	(2)	(28.6%)	165	NA	
	Pipeline Leaks	Fugitive	797,426	499,199	Number of known leaks: 17,020 Estimated number of unknown leaks: 1,670 Total number of leaks*: 38,690	547,954	Number of known leaks: 17,427 Estimated number of unknown leaks: 2,204 Total number of leaks*: 19,630							The 2018 Data columns have been updated with Company Specific EFs to allow apples-to-apples comparability An additional tab was added to Appendix 4 titled "2019 Unknown Leaks" to show the updated 2018 emissions: - Using Company Specific Emission Factors - Correcting the Main Vintage Plastic Mileage. In the 2019 Annual Emissions Report, SoCalGas inadvertently included 1986 in the Vintage Plastic category - 2018 Total of number of Leaks increased by 63 leaks due to the reclassification of the 58 components leaks + 5 Unknown Leaks 2018 total emission was increased by 961 Mscf due to the reclassification of the 58 component leaks
	All Damages	Fugitive	78,646	79,593	Number of damages: 3,683	80,244	Number of damages: 3,326	651	0.8%	(357)	(9.7%)	1,598	2.0%	Damages have decreased due to the expanded Public Awareness Program regarding Dig-Alert Emissions associated with damages vary based on damage severity, damaged asset dimensions, and pipeline pressure
	Blowdowns	Vented	4,828	304	Number of blowdown events: 6,227	287	Number of blowdown events: 5,650	(17)	(5.6%)	(577)	(9.3%)	-4,541	(94.1%)	The 2018 value for number of blowdown events has been updated, the value originally reported was inadvertently summed incorrectly
	Component Emissions	Vented	NA	0	Number of emission items: 0		Number of emission items: 0	-	0.0%	-		NA	NA	
Distribution M&R Stations	Component Leaks	Fugitive	3,281	0	Number of leaks: 0	0	Number of leaks: 0	-	0.0%			-3,281	(100.0%)	Per Commission direction, all component leaks are now included in the Pipeline leaks tab
	Station Leaks & Emissions	Fugitive	340,729	345,340	Number of stations: 1,956	345,554	Number of stations: 1,966	214	0.1%	10	0.5%	4,825	1.4%	
	All Damages	Fugitive	NA	0	Number of damages: 0	0	Number of damages: 0	-	0.0%			NA	NA	
Customer Meters	Blowdowns	Vented	94	123	Number of blowdowns: 18,323	97	Number of blowdowns: 18,379	(26)	(20.8%)	(946)	(4.9%)	3	3.2%	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	861,557	Number of meters: 6,000,269	865,784	Number of meters: 6,028,891	4,227	0.5%	28,622	0.5%	19,549	2.3%	
	All Damages	Fugitive	NA	22,192	Number of damages: 1,721	11,405	Number of damages: 1,574	(10,787)	(48.6%)	(147)	(8.5%)	NA	NA	The reduction in meter damages can be attributed to the Gas Infrastructure Protection Program
	Vented Emissions	Vented	2,063	913	Number of blowdown events: 535,114	812	Number of blowdown events: 493,903	(1,001)	(11.1%)	(41,211)	(7.7%)	-1,251	(60.6%)	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			739	Number of emissions items: 1898	109	Number of emissions items: 942								SoCalGas detected fewer leaks at storage fields due to increased survey, which was mandated by CARB Oil & Gas Rule beginning January 2018. Emissions were also reduced due to accelerated leak repair. Leak repair acceleration is a result of the CARB Oil & Gas Rule and implementation of the SoCalGas Leak Abatement Compliance Plan. The 2018 data columns have been updated with corrected values. The values originally reported were inadvertently based on Emission Factors for pipe leaks as opposed to well leaks. An additional tab was added to Appendix 7 titled "2019corrected wellhead Lks&Emis" to show the updated 2018 emissions from Wellhead Leaks & Emissions
		Fugitive	3,146					(630)	(85.3%)	(956)	(50.4%)	-3,037	(96.5%)		
	Compressor Emissions	Vented	84,609	9,641	Number of compressors: 38	1,561	Number of compressors: 42								In 2018, SoCalGas used an average EF for most facilities because SoCalGas was not able complete testing at all facilities. 2019 measurements are all based on actual EFs and not average, resulting in emission reductions. Additionally, 3 Natural Gas centrifugal compressors were replaced with electric compressors in 2018, which explains the decrease in emissions in subsequent years.
								(8,080)	(83.8%)	4	10.5%	-83,048	(98.2%)		
	Compressor Leaks	Fugitive	NA	This worksheet was combined with Component Leaks worksheet in 2018 template.		This worksheet was combined with Component Leaks worksheet in 2019 template.									
	Blowdowns	Vented	10,812	3,933	Number of blowdown events: 4914	3,697	Number of blowdown events: 3,485	(236)	(6.0%)	(1,429)	(29.1%)	-7,115	(65.8%)		SoCalGas has implemented blowdown reduction strategies to reduce these emissions at storage facilities.
	Component Emissions	Vented	NA	5,281	Number of devices: 252	4,202	Number of devices: 202	(1,079)	(20.4%)	(50)	(19.8%)	NA	NA		The decreases in emissions and count can be attributed to the conversion from natural gas to either compressed air or electric driven components.
	Component Leaks	Fugitive	107	21,989	Number of leaks: 882	14,181	Number of leaks: 719	(7,808)	(35.5%)	(163)	(18.5%)	14,074	13,153.3%		Emissions decreased due to accelerated leak repairs in 2019.
Unusual Large Leaks	Dehydrator Vent Emissions	Fugitive	13,402	0	Number of facilities: 4	0	Number of facilities: 4	-	-	-	0.0%	-13,402	(100.0%)		The 2015 baseline is subject to change; emissions were understated in 2015 due to limited data and different reporting requirements.
	(Description)		3,630,000									-3,630,000	(100.0%)		These facilities all have vapor recovery or vapor control units and therefore do not emit natural gas.
	Total		6,409,851	2,436,934	NA	2,291,606	NA	(145,328)	-6%	NA	NA	-4,118,245	(64.2%)		

Legend

Corrected Values, June 2020

Corrected Values, October 2020

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System Wide Leak Rate Data

1/1/2019 - 12/31/2019

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	60,965,046	58,412,742	887,445	60,957,181	

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
1,240,489	854,252,143	12,077,297	58,412,742	

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
230,575	752,921,259	0	

*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	0.81%	Interstate supplies
Ethane	4.01%	Interstate supplies
C3+	0.34%	Interstate supplies
C6+	0.60%	Interstate supplies
Oxygen	0.2%	Estimated to limit, Not Tested at all locations
Hydrogen		Not Tested
Sulfur	0.0002%	Estimated to include odorant
Water	0.01%	Estimated to limit
Carbon Monoxide		Not Tested
Particulate Matter		Not Tested
Inert Gas	1.58%	Interstate supplies
Odorant	0.0002%	Estimated guideline rate