

SoCalGas, June 15th, 2021
 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 2021 June Report
 Appendix 8: Rev. 03/31/21

Summary Tables:

System Categories	Emission Source Categories	Fugitive or Vented	For Reference Only: 2015 Baseline Emissions (Mscf)	2019 Total Annual Volume of Leaks & Emissions (Mscf)	2019 Total Annual Count of Leak & Emission Items	2020 Total Annual Volume of Leaks & Emissions (Mscf)	2020 Total Annual Count of Leak & Emission Items	Emission Change for Year Over Year Comparison from 2019 to 2020 (Mscf)	Percentage Change for Year Over Year Comparison from 2019 to 2020	Count Change for Year Over Year Comparison from 2019 to 2020	Percentage Change for Year Over Year Comparison from 2019 to 2020	Emission Change for Year Over Year Comparison from 2015 to 2020 (Mscf)	Percentage Change for Year Over Year Comparison from 2015 to 2020	Explanation for Significant Percentage Change for Year Over Year Comparison from 2019 to 2020
Transmission Pipelines	Pipeline Leaks	Fugitive	1,324	1,273	Leak count: 22 Total System Mileage: 3385	1,255	Leak count: 9 Total System Mileage: 3341	(16)	(1.3%)	(44)	(1.3%)	-69	(5.2%)	Transmission Pipeline Mileage decreased by 44 miles.
	All Damages	Fugitive	0	0	Number of emission items: 0	9,692	Number of emission items: 2	9,692	N/A	2	N/A	9,692	N/A	The increase in emissions is due to third party excavation damages.
	Blowdowns	Vented	199,970	132,921	Number of blowdown events: 2,793	76,006	Number of blowdown events: 1,162	(56,915)	(42.8%)	(1,633)	(58.4%)	-123,964	(62.0%)	Blowdown 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 the fact that SoCalGas increased the capabilities of the centralized organization responsible for high-pressure pipeline blowdown reduction efforts. SoCalGas bundled work on high-pressure lines when it is practical to do so and coordinated blowdown reduction for high-pressure projects across departments.
	Component Emissions	Vented	0	7,165	Number of devices: 333	6,370	Number of devices: 303	(795)	(11.1%)	(30)	(9.0%)	6,370	N/A	The decrease in emissions and number of devices are due to asset verification projects of Transmission Pipeline components, resulting in lower but more accurate component count.
	Component Leaks	Fugitive	N/A	0	Number of leaks: 51	0	Number of leaks: 41	-	N/A	(10)	(19.6%)	-	-	The number of component leaks on transmission pipelines was lower by 10 leaks from the previous year.
	Odorizers	Vented	2,434	2,592	Number of units: 255	2,626	Number of units: 242	34	1.3%	(13)	(5.1%)	192	7.9%	The decrease in number of units can be attributed to converting odorizers from natural gas to air. The increase in emissions can be attributed to installing new analyzers that require a higher sampler rate.
Transmission M&R Stations	Station Leaks & Emissions			110,296	Number of facilities: 569	110,296	Number of facilities: 569							The decrease in emissions and numbers of facilities can be attributed to the following: - California Public Utilities Commission (CPUC) and California Air Resources Board (CARB) Approval of transferring Distribution Farm Taps' Emissions from Appendix 2 to Appendix 5 as requested at the 2021 Winter Workshop - Moving Direct Sales emissions from Appendix 2 (Transmission M&R Stations) to Appendix 6 (MSA Systems) since Direct Sales emissions are accounted for in Appendix 6 (MSA Systems) To allow apples-to-apples comparability, the 2019 Data columns have been updated to reflect the approval of transferring Distribution Farm Taps' Emissions from Appendix 2 to Appendix 5. Thus all blowdown events and emissions associated with Farm Taps have been moved to Appendix 5. An additional tab was added to Appendix 2 titled "2020 Updated Station Lk's" to show the updated 2019 emissions data from Station Leaks and Emissions.
		Fugitive	340,142					-	0.0%	-	0.0%	-229,846	(67.6%)	
	Blowdowns	Vented	95	1,474	Number of blowdown events: 666		11		(1,463)	(99.3%)	237	-84	(88.4%)	Blowdowns emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed. To allow apples-to-apples comparability, the 2019 Data columns have been updated to reflect the approval of transferring Distribution Farm Taps' Emissions from Appendix 2 to Appendix 5. Thus all blowdown events and emissions associated with Farm Taps have been moved to Appendix 5. An additional tab was added to Appendix 2 titled "2020 Updated Blowdowns" to show the updated 2019 emissions data from Transmission M&R Stations Blowdowns.
Transmission Compressor Stations	Compressor Emissions	Vented	34,810	3,914	Number of compressors: 38	27,851	Number of compressors: 38	23,937	611.6%	-	0.0%	-6,959	(20.0%)	The increase in the emissions can be attributed to the compressor rod packing replacement at two high-demand and high-speed units. The rod packing was replaced due to constraint on the system.
	Compressor Leaks	Fugitive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Blowdowns	Vented	7,268	11,825	Number of blowdown events: 770	17,166	Number of blowdown events: 883	3,341	24.2%	113	34.7%	9,898.44	136.2%	Blowdown emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed.
	Component Emissions	Vented	N/A	4,287	Number of devices: 206	5,340	Number of devices: 254	1,053	24.6%	48	23.3%	N/A	N/A	The increase in emissions and number of devices are due to asset verification projects of Transmission Compressor Station components, resulting in higher but more accurate component count.
	Component Leaks	Fugitive	8,430	5,858	Number of leaks: 276	2,527	Number of leaks: 153	(3,331)	(56.9%)	(123)	(44.6%)	(5,902.52)	(70.0%)	In 2020, CARB Oil & Gas Rule decreased the leak detection threshold from 10,000 ppm to 1,000 ppm. Consequently, leaks > 10,000 ppm (Appendix 9 threshold) count is lower due to addressing and repairing leaks when detected at 1,000 ppm.
	Storage Tank Leaks & Emissions	Vented	0	165	Number of emission items: 5	165	Number of emission items: 5	-	0.0%	-	0.0%	165.00	N/A	
Distribution Main & Service Pipelines	Pipeline Leaks		797,426	551,386	Number of known leaks: 17,427 Estimated number of unknown leaks: 2,204 Total number of leaks*: 19,690	547,027	Number of known leaks: 20,095 Estimated number of unknown leaks: 798 Total number of leaks*: 20,803							In 2020, SoCalGas shifted Unprotected Steel pipelines from a three-year survey cycle to an annual survey cycle. An additional tab was added to Appendix 4 titled "2020 Unknown Leaks" to show the updated 2019 emissions due to: - the CPUC request to use 0.934 molar ratio of natural gas to methane when applying Using Company Specific Emission Factors - Correcting the Main and service Vintage Plastic Mileage to align with the continuous efforts of process improvements and data cleanup
	All Damages	Fugitive	78,646	80,244	Number of damages: 3,326	73,665	Number of damages: 3,455	(6,579)	(8.2%)	129	3.9%	(4,981.00)	(6.3%)	Emissions associated with damages vary based on damage severity, damaged asset dimensions, and pipeline pressure.
	Blowdowns	Vented	4,828	296	Number of blowdown events: 24,478		221		(75)	(25.2%)	-	(4,606.93)	(95.4%)	The 2019 value for the number of distribution blowdown events and blowdown emissions have been updated; the value originally reported was inadvertently summed incorrectly. An additional tab was added to Appendix 4 titled "2020 Corrected Blowdowns" to show the updated 2019 emissions data from Blowdowns.
	Component Emissions	Vented	N/A		Number of emission items: 0		Number of emission items: 0	-	-	-	-	N/A	N/A	
	Component Leaks	Fugitive	3,281	0	Number of leaks: 0	0	Number of leaks: 0	-	-	-	-	(3,281.00)	(100.0%)	
	Station Leaks & Emissions		N/A		Number of stations: NA	N/A	Number of stations: NA							CPUC approved transitioning to leak-based emission factors to estimate Distribution M&R Stations Emissions. SoCalGas has the leak-based data and information for 2020 & 2019. Therefore, it is omitting this category from its overall total emissions and replacing it with the added "Component Leaks Vented" and "Component Leaks Fugitive" as Emission Source Categories on Line 31 & 32. The CPUC has yet to approve adjustment to the 2015 Baseline.
	All Damages	Fugitive	N/A	0	Number of damages: 0	0	Number of damages: 0	-	-	-	-	-	-	

Distribution M&R Stations	Blowdowns	Vented	94	103	Number of blowdowns: 20,344	114	Number of blowdowns: 24,585								As a result of the CPUC's decision to transition Farm Taps' emissions to Appendix 5, the 2020 data of blowdown includes the blowdowns associated with Farm Taps. To allow apples-to-apples comparability, the 2019 Data columns have been updated to reflect the approval of transferring Distribution Farm Taps' Blowdown Emissions from Appendix 2 to Appendix 5. An additional tab was added to Appendix 5 titled "2020 Updated Blowdowns" to show the updated 2019 emissions data from Distribution M&R Stations Blowdowns associated with Farm Taps.
	Component Emissions	Vented	N/A	315	Number of emission items: 15	295	Number of emission items: 14	11	10.9%	4,241	20.8%	20.22	21.5%		As a result of the CPUC's decision to transition Farm Taps' emissions to Appendix 5, SoCalGas Added "Components Emissions" row to the summary appendix to demonstrate vented emissions of Distribution M&R Stations. To allow apples-to-apples comparability and data availability, the 2019 Data columns have been updated to reflect the approval of transferring Distribution Farm Taps' Emissions from Appendix 2 to Appendix 5. An additional tab was added to Appendix 5 titled "2020 Updated Comp Vent Emiss" to show the updated 2019 vented emissions data from Distribution M&R Stations.
	Component Leaks	Fugitive	N/A	7,808	Number of leaks: 1,234	8,857	Number of leaks: 1,445	1,088	13.9%						As a result of the CPUC's approval of transitioning to leakage-based emission factors to estimate Distribution M&R Stations Emission as well as transferring Farm Taps' emissions to Appendix 5, SoCalGas Added "Components Leaks" row to the summary appendix to demonstrate fugitive emissions of Distribution M&R Stations. To allow apples-to-apples comparability and data availability, the 2019 Data columns have been updated to reflect the approval of transferring Distribution Farm Taps' Emissions from Appendix 2 to Appendix 5. An additional tab was added to Appendix 5 titled "2020 Updated Component Leaks" to show the updated 2019 fugitive emissions data from Distribution M&R Stations.
Customer Meters	Meter Leaks	Fugitive	846,235	865,784	Number of meters: 6,028,891	871,235	Number of meters: 6,065,878	5,451	0.6%	36,987	0.6%	25,000.00	3.0%		The 2019 value for emissions of All Damages has been updated. The value originally reported was inadvertently summed incorrectly. Blowdown emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed.
	All Damages	Fugitive	N/A	15,631	Number of damages: 1,574	16,169	Number of damages: 1,354	538	3.4%	(220)	(14.0%)	-	-		
	Vented Emissions	Vented	2,063	812	Number of blowdown events: 493,903	666	Number of blowdown events: 349,807	(146)	(18.0%)	(144,096)	(29.2%)	(1,396.81)	(67.7%)		
Underground Storage	Storage Leaks & Emissions	Fugitive	3,146		Number of emissions items: 942	59	Number of emissions items: 134	(50)	(45.5%)	(808)	(85.8%)	(3,086.63)	(98.1%)		The decrease in the number of emissions items can be attributed to the end (April 2020) of the Air Quality Management District Daily Well Inspection Program at Aliso Canyon. A new regulation by the California Air Resources Board superseded the daily well inspection program with a continuous well methane program. Moreover, in 2020, CARB Oil & Gas leak detection threshold dropped from 10,000 ppm to 1,000 ppm. Subsequently, leaks > 10,000 ppm (CPUC) count is lower due to addressing and repairing leaks when detected at 1,000 ppm.
	Compressor Emissions	Vented	84,609	1,561	Number of compressors: 42	1,489	Number of compressors: 47	(72)	(4.6%)	5	11.9%	(83,119.56)	(98.2%)		The increase in the number of units can be attributed to including the vapor recovery units in Playa Del Ray facilities.
	Compressor Leaks	Fugitive	N/A		This worksheet was combined with Component Leaks worksheet in 2019 template.		This worksheet was combined with Component Leaks worksheet in 2020 template.								
	Blowdowns	Vented	10,812	3,697	Number of blowdown events: 3,485	1,783	Number of blowdown events: 3,054	(1,914)	(51.8%)	(431)	(12.4%)	(9,028.78)	(83.5%)		Blowdown emissions are a function of activity level. Blowdown volume varies by activity, depending on the type of work performed. The emissions reduction can be attributed to the facilities' efforts to depressurize the line by routing the gas to either distribution or transmission systems. Facilities also stores the gas in a utility truck to reduce the amount of gas that is vented to the atmosphere.
	Component Emissions	Vented	N/A	4,202	Number of devices: 202	2,773	Number of devices: 177	(1,429)	(34.0%)	(25)	(12.4%)				Emissions reductions can be attributed to decommissioning components, converting components to nitrogen, or converting components to air components.
	Component Leaks	Fugitive	107	14,181	Number of leaks: 719	4,073	Number of leaks: 284	(10,108)	(71.3%)	(435)	(60.5%)	3,966.01	3,706.6%		In 2020, CARB Oil & Gas Rule decreased the leak detection threshold from 10,000 ppm to 1,000 ppm. Consequently, leaks > 10,000 ppm (Appendix 9 threshold) count is lower due to addressing and repairing leaks when detected at 1,000 ppm.
Unusual Large Leaks	Dehydrator Vent Emissions	Fugitive	13,402	0	Number of facilities: 4	0	Number of facilities: 4	-	-	-	0.0%	(13,402.00)	(100.0%)		
	(Description)		3,630,000					-	-			(3,630,000.00)	(100.0%)		
Total			6,409,851	1,829,897	N/A	1,787,772	N/A	(42,125)	-2%	N/A	N/A	(4,622,076.71)	(72.1%)	35.7%	Emissions Reduction from 2015 Baseline (excluding Unusual Large Leaks)

Legend

	Corrected/Updated Values, June 2021
	Added Row, June 2021

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System Wide Leak Rate Data

1/1/2020 - 12/31/2020

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	68,879,893	55,268,409	683,919	48,538,579	

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
1,370,714	866,978,539	12,128,010	55,268,409	

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
213,958	747,319,648	-	

*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	95%	Interstate supplies
Carbon Dioxide	0.74%	Interstate supplies
Ethane	3.40%	Interstate supplies
C3+	0.23%	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	0.10%	Estimated to Limit, Not Tested at all locations
Carbon Monoxide		Not Tested
Particulate Matter		Not Tested
Inert Gas	1.64%	Interstate supplies
Odorant	0.00%	Estimated to guideline rate