

SoCalGas

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.
 and In Response to Data Request SoCalGas R15-01-008 2017 June Report
 Issued: March 31, 2017
 Appendix 1

Rev. 3/31/17

Pursuant to SB 1371, Leno - Natural gas: leakage abatement, the California Public Utilities Commission (CPUC) requests that the following information be transmitted to the CPUC and the State Air Resources Board (ARB):
 Note - Definitions in Data Request SoCalGas R15-01-008 2017 June Report

The following questions in the above mentioned data requests are answered using the spreadsheets in this Appendix (#1):

- (2) A List of new graded and ungraded gas leaks discovered, tracked by geographic location in a Geographic Information System (GIS) or best equivalent, by grade, component or equipment, pipe size, schedule and material, pressure, age, date discovered and annual volume of gas leaked for each, by month, from January 1st through December 31st of the previous calendar year.
- (3) List of graded and ungraded gas leaks repaired, tracked by geographic location in a Geographic Information System (GIS) or best equivalent, from January 1st through December 31st of the previous calendar year. Include the grade, component or equipment, pipe size, schedule and material, pressure, age, date discovered, date of repair, annual volume of gas leaked for each and the number of days from the time the leak was discovered until the date of repair.
- (4) List of ALL open graded and ungraded leaks, regardless of when they were found, tracked by geographic location in a Geographic Information System (GIS) or best equivalent, that are being monitored or are scheduled to be repaired, from January 1st through December 31st of the previous calendar year. Include the grade, component or equipment, pipe size, schedule and material, pressure, age, date discovered, scheduled date of repair, and annual volume of methane leaked for each.

Notes:
 Use a formula-derived value with the formula used in the Annual Emissions column. Do not use a copy and paste-as-value.
 At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange.
 Response:

Transmission Pipeline Leaks:

ID	Geographic Location	Pipe Material	Pipe Size (nominal)	Pipe Age (months)	Pressure (psi)	Leak Grade	Above Ground or Below Ground	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Scheduled Repair Date (MM/DD/YY)	Reason for Not Scheduling a Repair	Number of Days Leaking	Emission Factor (Mscf/Mile/Year)	Annual Emissions (Mscf)	Explanatory Notes / Comments	
Transmission	SoCalGas Territory	PB	All	All	All	All	All	NA	NA	NA	NA	NA	0.38	0.38	1 Mile - For 2016, the INGAA Greenhouse Gas Emission Estimation Guidelines for Natural Gas Transmission and Storage - Volume 1 GHG Emission Estimation Methodologies and Procedures (September 28, 2005 - Revision 2) - Table 4-4 study provides the best available estimate of emissions for Transmission Pipeline, which includes emissions from Flanges and Valves.	
Transmission	SoCalGas Territory	PC	All	All	All	All	All	NA	NA	NA	NA	NA	0.38	1,297	3,454 Miles - For 2016, the INGAA Greenhouse Gas Emission Estimation Guidelines for Natural Gas Transmission and Storage - Volume 1 GHG Emission Estimation Methodologies and Procedures (September 28, 2005 - Revision 2) - Table 4-4 study provides the best available estimate of emissions for Transmission Pipeline, which includes emissions from Flanges and Valves.	
10-172-56	93251	PC	10"	1952	400	Code 1	B	9/21/2016	9/21/2016	NA	NA	265	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
10-157-79	92363	PC	30"	1957	936	Code 2	B	3/21/2016	4/15/2016	NA	NA	106	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
10-157-78	92363	PC	30"	1957	936	Code 2	B	3/17/2016	4/14/2016	NA	NA	105	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
10-147-96	92239	PC	30"	1947	756	Code 2	B	3/28/2016	4/8/2016	NA	NA	99	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
10-124-77	93268	PC	12"	1994	400	Code 2	B	2/29/2016	4/29/2016	NA	NA	120	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
10-123-64	92363	PC	30"	1957	936	Code 2	B	5/10/2016	5/10/2016	NA	NA	131	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
520001387807	93405	PC	16"	1953	400	Code 2	B	7/15/2016	9/13/2016	NA	NA	257	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
68110	91325	PC	8"	1972	710	AN	A	3/10/2016	3/10/2016	NA	NA	70	NA	NA	Emissions accounted for by mileage-based INGAA Emission Factor	
														Sum total	1,297.38	

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Pursuant to SB 1371, Leno - Natural gas: leakage abatement, the California Public Utilities Commission (CPUC) requests that the following information be transmitted to the CPUC and the State Air Resources Board (ARB):

Note - Definitions in Data Request SoCalGas R15-01-008 2017 June Report

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(4) List of ALL open graded and ungraded leaks, regardless of when they were found, tracked by geographic location in a Geographic Information System (GIS) or best equivalent, that are being monitored or are scheduled to be repaired, -from January 1st through December 31st of the previous calendar year. Include the grade, component or equipment, pipe size, schedule and material, pressure, age, date discovered, scheduled date of repair, and annual volume of methane leaked for each.

Notes:

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At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange

Response:

Transmission Pipeline Damage (3rd party dig-ins, natural disasters, etc.):

ID	Geographic Location	Damage Type	Pipe Material	Pipe Size (nominal)	Pipe Age (months)	Pressure (psi)	Leak Grade	Above Ground or Below Ground	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Number of Days		Emission Factor (Mscf/Day)	Annual Emissions (Mscf)	Explanatory Notes / Comments
												Until Permanent Repair				

Note: No Damages

Sum total 0

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The following question in the above mentioned data request is answered using the spreadsheets in this Appendix (#1):

(6) Calculable or estimated emissions and non-graded gas leaks, as defined in Data Request SoCalGas R15-01-008 2017 June Report.

Notes:

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At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange.

Response:

Transmission Pipeline Blowdowns:

ID	Geographic Location	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments
N/A	SoCalGas Territory	78	0.20	Transmission Odor Intensity Tests
Line 160/1005	93111/93001	1	63.94	Pigging Operation Launcher/Receiver Emission
Line 1004	93105/93101	1	139.04	Abandonment/Isolation of pipeline
Line 160/1005	93013/93001	1	28.18	Pigging Operation Launcher/Receiver Emission
Line 1005	93001/93013	3	11,235.47	Pipe section replacement
Line 235	92394/92368	2	5,225.00	Tie-In project
Line 6914	92233/92227	2	1,735.33	Valve replacement/installation
SL 32-21	91001/91011	1	273.00	Hydrotest
Line 1014	90712/90713	2	7,405.00	Valve replacement/installation
Line 1172	90293/90245	1	274.20	Abandonment/Isolation of pipeline
SL 37-18	90249/90250	2	262.00	Pipe section replacement
SL 30-18	90248/90502	1	72.50	Pipe section replacement
SL 43-121	90024/90049	1	893.00	Pipe section replacement
Line 335	93544	1	7,008.00	Tie-In project
Line 235	93510	1	8,177.60	Pipe section replacement
Line 7025	93314	1	804.86	Pipe section replacement
Line 7039	93311	1	76.09	Pigging Operation Launcher/Receiver Emission
Line 8110	93311	1	998.66	Pipe section replacement
Line 85	93311	1	5,216.80	Pipe section replacement
Line 7039	93308	1	32.00	Pigging Operation Launcher/Receiver Emission
Line 85	93268	1	1,797.40	Pipe section replacement
Line 133	93251	1	187.68	Abandonment/Isolation of pipeline
Line 173	93251	1	548.00	Abandonment/Isolation of pipeline
Line 324	93033	1	223.50	Equipment maintenance
Line 1003	93013	2	670.90	Pipe section replacement
Line 406	93012	1	4,513.82	Valve replacement/installation
Line 404	93004	1	1,679.78	Pipe section replacement
Line 406	93004	2	8,882.91	Pipe section replacement
Line 1001	93003	1	15.76	Abandonment/Isolation of pipeline
Line 1011 & 404	93003	1	15.76	Abandonment/Isolation of pipeline
Line 1011 & Line 404	93003	1	50.80	Abandonment/Isolation of pipeline
Line 37 & 36	93003	1	6,491.00	Pipe section replacement
Line 404	93003	1	6,491.00	Pipe section replacement
Line 160/1005	93001	1	95.57	Pigging Operation Launcher/Receiver Emission
Line 1019	92868	1	4,200.00	Pipe section replacement
Line 2000	92555	1	53.57	Pigging Operation Launcher/Receiver Emission
Line 2001	92555	1	48.59	Pigging Operation Launcher/Receiver Emission
Line 2000	92539	2	7,067.26	Pipe section replacement
Line 3000	92365	1	63.71	Pigging Operation Launcher/Receiver Emission
Line 3000	92363	4	161.52	Pigging Operation Launcher/Receiver Emission
Line 3000	92363	1	1,293.00	Pipe section replacement
Line 3000	92363	4	11,704.08	Tie-In project
Line 3000	92351	1	20.33	Pigging Operation Launcher/Receiver Emission
Line 6916	92332	1	45.79	Pigging Operation Launcher/Receiver Emission
Line 6916	92277	1	291.22	Pigging Operation Launcher/Receiver Emission
PLS MLV 4	92277	1	5,633.60	Pigging Operation Launcher/Receiver Emission
Line 2000	92239	1	65.43	Pigging Operation Launcher/Receiver Emission
Line 2001	92239	1	25.84	Pigging Operation Launcher/Receiver Emission
Line 6914 & SL 6001-2	92233	2	2,907.62	Tie-In project
Line 6001-2	92227	1	567.28	Valve replacement/installation
Line 6916	92220	1	462.50	Valve replacement/installation
Line 1600	92028	1	1,225.50	Pigging Operation Launcher/Receiver Emission
Line 1600	92028	1	1,275.60	Pipe section replacement
Line 2001	91746	1	50.00	Pipe section replacement
Line 404	91367	1	811.00	Hydrotest
Line 406	91367	1	1,001.00	Hydrotest
Line 404	91360	1	1,027.00	Pipe section replacement
Line 85	91355	3	4,760.60	Valve replacement/installation
Line 3000	91343	1	2,812.50	Equipment maintenance
Line 37	91301	1	227.90	Pipe section replacement
Line 3002	91203	1	21.60	Pigging Operation Launcher/Receiver Emission
Line 3002	91202	1	57.33	Pigging Operation Launcher/Receiver Emission
Line 325	90810	1	5.17	Pigging Operation Launcher/Receiver Emission
Line 325	90745	1	45.26	Pigging Operation Launcher/Receiver Emission
Line 1014	90703	1	2,887.00	Valve replacement/installation
Line 2000	90670	1	2,388.00	Pipe section replacement
Line 1170	90245	1	3,016.00	Abandonment/Isolation of pipeline
Line 1170	90245	1	1,642.00	Valve replacement/installation
Line 1172	90245	1	344.00	Abandonment/Isolation of pipeline
Line 1172	90245	1	318.40	Pigging Operation Launcher/Receiver Emission
Line 1175	90245	1	4,250.00	Valve replacement/installation
SL 45-1106	90012	1	123.60	Pipe section replacement
Sum total			144,485.54	

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Use a formula-derived value with the formula used in the Annual Emissions column. Do not use a copy and paste-as-value.

At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange

The emissions captured on this tab represent the emissions associated with the operational design and function of the component. Any intentional release of natural gas for safety or maintenance purposes should be included in the Blowdowns worksheet.

Response:

Transmission Pipeline Component Vented Emissions:

Total Number of Devices	Device Type	Bleed Rate	Manufacturer	Emission Factor (Mscf/day/dev)	Annual Emission (Mscf)	Explanatory Notes / Comments
304	P	I	Mics.	0.0576	6,409	
9	P	H	Fisher/Bristol	0.4457	1,468	
				Sum total	7,877	

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The emissions captured on this tab represent the emissions associated unintentional leaks that if repaired would not leaking. If the component is releasing gas or "bleeding" as a result of its design or function then it is not to be captured in this tab.

Response:

Transmission Pipeline Component Fugitive Leaks:

ID	Geographic Location	Device Type	Bleed Rate	Manufacturer	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor (Mscf/day/dev)	Annual Emission (Mscf)	Explanatory Notes / Comments
1182-468-462-849	93510	O	NA	NA	10/22/2012		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-162-76	92220	O	NA	NA	2/5/2014		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-153-14	92886	O	NA	NA	2/5/2016	2/5/2016	36	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-152-81	92886	O	NA	NA	7/30/2015	8/2/2016	215	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-141-40	92886	O	NA	NA	8/6/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-138-05	92677/92691	O	NA	NA	12/2/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-138-04	92886	O	NA	NA	8/5/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-138-03	92886	O	NA	NA	8/5/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-137-26	90740	O	NA	NA	3/8/2016	3/22/2016	82	NA	NA	Union component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-124-80	93311	O	NA	NA	3/10/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-124-79	92368	O	NA	NA	3/4/2016	4/19/2016	110	NA	NA	Fitting component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-120-92	93311	O	NA	NA	12/28/2016	3/8/2017	366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-120-85	93249	O	NA	NA	12/15/2016		366	NA	NA	Flange component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-120-83	93204	O	NA	NA	12/13/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-096-19	91301	O	NA	NA	5/16/2016	12/7/2016	342	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-054-97	91710/91762	O	NA	NA	7/15/2016	1/15/2017	366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-027-52	90245	O	NA	NA	9/28/2016	3/4/2017	366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-015-19	91506	O	NA	NA	4/27/2016	5/3/2016	124	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-010-62	90245	O	NA	NA	12/15/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
10-010-48	90245	O	NA	NA	11/23/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
520001341523	92603	O	NA	NA	8/17/2015	5/20/2016	141	NA	NA	Thread/Coupling component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
74351	93552	O	NA	NA	3/23/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
56129	93001	O	NA	NA	12/2/2016		366	NA	NA	Valve component on Transmission pipeline. Emissions accounted for by mileage-based INGAA Emission Factor.
Sum total									0	

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Response:

Transmission Pipeline Odorizers:

ID	Geographic Location	Number of Units	Emission Factor (Mscf/yr)	Annual Emission (Mscf)	Explanatory Notes / Comments
Gas Quality Equipment	SoCalGas Territory	30	NA	47.44	Transmission (BTU, Gas Quality), Gas Chromatographs (GC). Use manufacturing specs. See Notes in Appendix 9.
Gas Quality Equipment	SoCalGas Territory	21	NA	423.52	Located in Storage, GCs and Gas Analyzers. Use manufacturing specs. See Notes in Appendix 9.
Gas Quality Equipment	SoCalGas Territory	15	NA	251.75	Transmission (Interstate, Interutilities), GCs and Gas Analyzers. Use manufacturing specs. See Notes in Appendix 9.
Gas Quality Equipment	SoCalGas Territory	84	NA	653.53	Transmission (Producers), Gas Analyzers. Use manufacturing specs. See Notes in Appendix 9.
Gas Quality Equipment	SoCalGas Territory	43	NA	16.65	Transmission (Producers), Gas Sample/Quality Tests. Use manufacturing specs. See Notes in Appendix 9.
Odorizer	SoCalGas Territory	52	NA	868.45	YZ Odorizer. Use manufacturing specs. See Notes in Appendix 9.
			Sum total	2,261.33	