

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 7

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 question in the above mentioned data request is answered using the spreadsheets in this Appendix (#7):

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

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

Use the Population based emission factor if facility is not surveyed. Use Leaker based emission factor if facility is surveyed, and report only the found leaking components.

Response:

Underground Storage Facility Leaks and Emissions:

ID	Geographic Location	Source	Number of Sources	Emission Factor (Mscf/yr/dev)	Annual Emissions (Mscf)	Explanatory Notes / Comments
Valve	91326	W/P	548	2.4931	1,366.23	Appendix 9 Leaker EF. Assumed one week duration due to daily well inspection and leak repair activities.
Connector	91326	W/P	126	0.9507	119.79	Appendix 9 Leaker EF. Assumed one week duration due to daily well inspection and leak repair activities.
Valve	93111	W	160	0.8784	140.54	Appendix 9 Population EF. GHG Subpart W survey out of scope - used population estimate.

ID	Geographic Location	Source	Number of Sources	Emission Factor (Mscf/yr/dev)	Annual Emissions (Mscf)	Explanatory Notes / Comments
Connector	93111	W	480	0.0878	42.16	Appendix 9 Population EF. GHG Subpart W survey out of scope - used population estimate.
Valve	90640	W	360	0.8784	316.22	Appendix 9 Population EF. GHG Subpart W survey out of scope - used population estimate.
Connector	90640	W	1080	0.0878	94.87	Appendix 9 Population EF. GHG Subpart W survey out of scope - used population estimate.
Valve	90293	W	224	0.8784	196.76	Appendix 9 Population EF. GHG Subpart W survey out of scope - used population estimate.
Connector	90293	W	672	0.0878	59.03	Appendix 9 Population EF. GHG Subpart W survey out of scope - used population estimate.
Valve	91355	W	349	0.8784	306.56	Appendix 9 Population EF. GHG Subpart W survey.
Connector	91355	W	1157	0.0878	101.63	Appendix 9 Population EF. GHG Subpart W survey.
SS25	91326	C	1	NA	990,000.00	SoCalGas estimated 4.62 Bcf of natural gas emitted from the SS-25 well using a mass balance inventory verification method. For purposes of this report, SoCalGas has used tracer flux ratio and flight mass balance data to calculate daily emission rates from SS-25 from October 23, 2015, when the leak was discovered, through February 11, 2016, when the leak ended. Using the estimated daily flow rates from SS-25, SoCalGas apportioned the quantity of gas leaked in 2016 at 21.4% of the total volume of natural gas emitted from this event (0.99 Bcf NG).

Sum Total **992,744**

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

The following question in the above mentioned data request is answered using the spreadsheets in this Appendix (#7):

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

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

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

Response:

Underground Storage Facility Compressor Vented Emissions (see note above):

ID	Geographic Location	Compressor Type	Prime Mover	Number of Cylinders in Compressor	Number of Seals	Seal Type	Operating Mode: Pressurized Operating (hours)	Operating Mode: Pressurized Idle (hours)	Operating Mode: Depressurized Idle (hours)	Emission Factor: Pressurized Operating (scf/hr)	Emission Factor: Pressurized Idle (scf/hr)	Emission Factor: Depressurized Idle (scf/hr)	Annual Emissions (Mscf)	Explanatory Notes / Comments
D-08 K-1	91326	R	C	4	NA	NA	0	2324	6460	348.85	0.02	0	0.05	
D-06 K-2	91326	R	C	4	NA	NA	0	2324	6460	348.85	0.02	0	0.05	
D-09 K-3	91326	R	C	4	NA	NA	0	3	8781	348.85	0.02	0	0.00	
D-10 K-4	91326	R	C	4	NA	NA	0	2324	6460	348.85	0.02	0	0.05	
D-07 K-5	91326	R	C	4	NA	NA	0	2324	6460	348.85	0.02	0	0.05	
K-17B	91326	R	E	2	NA	NA	1481	0	7303	25.50	0	0.02	37.91	
K-18A	91326	R	E	2	NA	NA	1992	0	6792	25.50	0	0.02	50.93	
K-50	91326	R	E	2	NA	NA	7	0	8777	348.85	0	0.02	2.62	
K-51A	91326	R	E	2	NA	NA	421	0	8363	25.50	0	0.02	10.90	
K-51B	91326	R	E	2	NA	NA	1120	0	7664	25.50	0	0.02	28.71	
D-14 K-25	91326	C	C	NA	1	W	0	0	8784	5157.46	N/A	0.11	0.97	
D-15 K-26	91326	C	C	NA	1	W	0	0	8784	5157.46	N/A	0.11	0.97	
D-16 K-27	91326	C	C	NA	1	W	0	0	8784	5157.46	N/A	0.11	0.97	
D-04 Unit 1	91355	R	C	6	NA	NA	3403	5156	225	2500.85	0	0	8,509.64	
D-05 Unit 2	91355	R	C	6	NA	NA	1435	4262	3087	600.67	0	0	862.20	
D-06 Unit 3	91355	R	C	6	NA	NA	3331	5076	378	740.33	0	0	2,465.67	
D-07 Unit 4	91355	R	C	6	NA	NA	2418	4932	1434	1642.71	0	0	3,971.25	
D-08 Unit 5	91355	R	C	6	NA	NA	2689	5517	579	197.47	0	0	530.94	
D-03 Wet Gas #1	91355	R	C	2	NA	NA	4400	4122	262	164.19	0	0	722.40	
D-02 Wet Gas #2	91355	R	C	2	NA	NA	4287	4235	262	94.75	0	0	406.19	
C-434A	91355	R	E	2	NA	NA	3066	5718	0	25.50	0	0.02	78.18	
C-434B	91355	R	E	2	NA	NA	1800	6984	0	23.69	0.02	0.02	42.78	
C-436A	91355	R	E	2	NA	NA	3525	5259	0	25.50	0	0.02	89.89	
C-436B	91355	R	E	2	NA	NA	4314	4470	0	17.77	0.02	0.02	76.75	
550A	91355	R	E	2	NA	NA	393	8392	0	25.50	0	0.02	10.01	
550B	91355	R	E	2	NA	NA	393	8392	0	25.50	0	0.02	10.01	
MU2	93111	R	C	2	NA	NA	141	0	8643	348.85	0	0	49.19	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.

ID	Geographic Location	Compressor Type	Prime Mover	Number of Cylinders in Compressor	Number of Seals	Seal Type	Operating Mode: Pressurized Operating (hours)	Operating Mode: Pressurized Idle (hours)	Operating Mode: Depressurized Idle (hours)	Emission Factor: Pressurized Operating (scf/hr)	Emission Factor: Pressurized Idle (scf/hr)	Emission Factor: Depressurized Idle (scf/hr)	Annual Emissions (Mscf)	Explanatory Notes / Comments
MU3	93111	R	C	2	NA	NA	18	0	8766	348.85	0	0	6.28	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
MU4	93111	R	C	2	NA	NA	139	0	8645	348.85	0	0	48.49	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
MU5	93111	R	C	2	NA	NA	155	0	8629	348.85	0	0	54.07	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
MU6	93111	R	C	2	NA	NA	152	0	8632	348.85	0	0	53.03	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
MU7	93111	R	C	2	NA	NA	142	0	8642	348.85	0	0	49.54	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
MU8	93111	R	C	2	NA	NA	124	0	8660	348.85	0	0	43.26	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
MU9	93111	R	C	2	NA	NA	264	0	8520	348.85	0	0	92.10	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
CB6	90293	R	C	4	NA	NA	1182	7520	82	348.85	0.02	0.02	412.49	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
CB8	90293	R	C	4	NA	NA	855	7846	83	348.85	0.02	0.02	298.43	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.
CB9	90293	R	C	4	NA	NA	990	7711	83	348.85	0.02	0.02	345.52	Out-of-scope for GHG Subpart W surveys. Used the calculation method to extrapolate emissions since no measurements were taken.

Sum Total **19,362**

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Issued: March 31, 2017

Appendix 7

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 question in the above mentioned data request is answered using the spreadsheets in this Appendix (#7):

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

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

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

Response:

Underground Storage Facility Compressor Fugitive Leaks (See note above):

ID	Geographic Location	Compressor Type	Prime Mover	Number of Cylinders in Compressor	Number of Seals	Seal Type	Operating Mode: Pressurized Operating (hours)	Operating Mode: Pressurized Idle (hours)	Operating Mode: Depressurized Idle (hours)	Emission Factor: Pressurized Operating (scf/hr)	Emission Factor: Pressurized Idle (scf/hr)	Emission Factor: Depressurized Idle (scf/hr)	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Annual Emissions (Mscf)	Explanatory Notes / Comments
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Note: Leaks on compressor piping are reported as "component leaks"

Sum Total 0

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Response:

Underground Storage Blowdowns:

ID	Geographic Location	Source	Compressor Type	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments
NA	91326	NA	NA	214	1.5	Orifice Plate Meter Inspections - Number of blowdown events is determined by 30 orifice meters with inspection Interval: 1 biannual, 12 mthly & 17 qtrly. Emission estimate = 7 scf vented/inspection on average.
NA	91326	NA	NA	355	7.1	Relief Valve Inspection - Isolation Valve - 355 relief valve with isolation valves tested annually with nitrogen & 20 cf gas in valve vented.
NA	91355	C	R	11	144.1	Compressor blowdowns
NA	93111	C	R	60	109.0	Compressor Blowdowns

ID	Geographic Location	Source	Compressor Type	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments
NA	93111	W/P	NA	82	429.5	Miscellaneous
NA	93111	W/P	NA	5	12.9	Pipeline
NA	93111	O	NA	6	26.2	Native Gas
NA	91355	W/P	NA	137	954.4	Aggregate blowdown below 100 psi
NA	91326	P/O	NA	107	70.6	Choke changes
NA	91326	O	NA	5	7.5	FLIR and sand tests
NA	91326	O	NA	6	4.3	Misc maintenance
NA	91326	O	NA	44	128.2	Other
NA	91326	W/P/O	NA	245	1,278.6	Storage integrity management program activities.
NA	91326	O	NA	16	10.4	Valve changes
NA	91326	W/O	NA	10	4.5	Wireline well blowdowns for noise & temp surveys
NA	91326	W/O	NA	4	0.3	Well kills
NA	91326	W/P	NA	70	76.4	Lateral Work
NA	91355	NA	NA	NA	1,040.2	Gas Start
NA	91355	W/P	NA	80	51.1	Field and Well Piping over 100 psi
NA	91355	O	NA	3	6.7	Other Equipment
NA	90293	P/O/W	NA	Unk	679.6	Only aggregate data available
NA	90640	P/O/W	NA	Unk	1,025.0	Only aggregate data available
NA	90293	NA	NA	158	3.2	Regulator Inspections - Bi-annual Insp. 79 Regulators. Emission estimate = 20 scf vented/inspection.
NA	90640	NA	NA	12	0.01	Orifice Plate Meter Inspections - Number of blowdown events is determined by 1 orifice meter with inspection interval monthly. Emission estimate = 1 scf vented/inspection on average.
NA	90293	NA	NA	111	2.2	Relief Valve Inspection - Isolation Valve - 111 relief valve with isolation valves tested annually with nitrogen & 20 cf gas in valve vented.

ID	Geographic Location	Source	Compressor Type	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments
NA	90293	NA	NA	56	0.1	Orifice Plate Meter Inspections - Number of blowdown events is determined by 14 Orifice meters inspected quarterly. Emission estimate = 2 scf vented/inspection.
NA	91355	NA	NA	244	4.9	Relief Valve Inspection - Isolation Valve - 244 relief valve with isolation valves tested annually with nitrogen & 20 cf gas in valve vented.
NA	93111	NA	NA	48	1.0	Relief Valve Inspection - Isolation Valve - 48 relief valve with isolation valves tested annually with nitrogen & 20 cf gas in valve vented.
NA	90640	NA	NA	53	1.1	Relief Valve Inspection - Isolation Valve - 53 relief valve with isolation valves tested annually with nitrogen & 20 cf gas in valve vented.
NA	93111	NA	NA	8	0.3	Relief Valve Inspection - No Isolation Valve - 8 relief valve with no isolation valve tested annually with nitrogen & 40 scf gas vented is twice volume of gas in valve.
NA	91326	NA	NA	7	0.2	Meter Change Outs - Rotary Meter Change Outs. Emission estimate = 27 scf vented/inspection.
NA	93111	NA	NA	51	0.4	Orifice Plate Meter Inspections - Plate inspections. Emission estimate = 7 scf vented/inspection.
NA	91355	NA	NA	32	0.7	Orifice Plate Meter Inspections - Plate inspections. Emission estimate = 23 scf vented/inspection.
NA	91355	NA	NA	14	0.4	Meter Change Outs - Rotary Meter Change Outs. Emission estimate = 27 scf vented/inspection.
NA	91326	W	NA	19	135.7	Well annulus manual venting
NA	91326	O	NA	13	41.9	Well annulus meter monthly venting for maintenance.
NA	91355	C	R	6	1.0	Wet Gas Compressor blowdowns

Sum Total **6,261**

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

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

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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

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Response:

Underground Storage Component Vented Emissions (See note above):

ID/Number of Devices	Geographic Location	Device Type	Bleed Rate	Manufacturer	Pressure (psi)	Survey Date (MM/DD/YY)	Number of Days Emitting	Emission Factor, Engineering or Manufacturer's based Estimate of Emissions (Mscf/day/dev)	Annual Emissions (Mscf)	Explanatory Notes / Comments
112	91355	P	I	Misc.	NA	NA	366	0.0576	2,361	
48	93111	P	I	Misc.	NA	NA	366	0.0576	1,012	
3	93111	P	L	Misc.	NA	NA	366	0.0336	37	
100	91326	P	I	Misc.	NA	NA	366	0.0576	2,108	
Sum Total									5,518	

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Response:

Underground Storage Component Fugitive Leaks (see note above):

ID	Geographic Location	Device Type	Bleed Rate	Manufacturer	Pressure (psi)	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor or Engineering Estimate (Mscf/day/dev)	Annual Emissions (Mscf)	Explanatory Notes / Comments
6046139	91326	V	NA	Misc.	NA	1/30/2016	2/4/2016	35	0.3562	12.5	
6046143	91326	V	NA	Misc.	NA	1/31/2016	2/5/2016	36	0.3562	12.8	
6063803	91326	C	NA	Misc.	NA	2/19/2016	2/19/2016	50	0.1358	6.8	
6046133	91326	M	NA	Misc.	NA	2/5/2016	2/6/2016	37	0.4639	17.2	
6046134	91326	M	NA	Misc.	NA	2/5/2016	2/6/2016	37	0.4639	17.2	
6046135	91326	M	NA	Misc.	NA	2/5/2016	2/6/2016	37	0.4639	17.2	
6046137	91326	M	NA	Misc.	NA	2/5/2016	2/6/2016	37	0.4639	17.2	
6046138	91326	M	NA	Misc.	NA	2/5/2016	2/6/2016	37	0.4639	17.2	
6238376	91326	C	NA	Misc.	NA	9/5/2016	12/15/2016	350	0.1358	47.5	
6168885	91355	V	NA	Misc.	NA	6/14/2016	6/28/2016	180	0.3562	64.1	
6122619	91355	V	NA	Misc.	NA	4/23/2016	5/25/2016	146	0.3562	52.0	
6237337	91355	V	NA	Misc.	NA	8/25/2016	9/14/2016	258	0.3562	91.9	
6223489	91355	V	NA	Misc.	NA	8/29/2016	8/30/2016	243	0.3562	86.5	
6237335	91355	V	NA	Misc.	NA	8/25/2016	9/9/2016	253	0.3562	90.1	
6237338	91355	V	NA	Misc.	NA	8/29/2016	9/9/2016	253	0.3562	90.1	
6063520	91355	V	NA	Misc.	NA	2/17/2016	2/17/2016	48	0.3562	17.1	
6045527	91355	V	NA	Misc.	NA	2/4/2016	2/11/2016	42	0.3562	15.0	
6045336	93111	C	NA	Misc.	NA	2/2/2016	2/2/2016	33	0.1358	4.5	
6075997	93111	C	NA	Misc.	NA	2/23/2016	2/23/2016	54	0.1358	7.3	

ID	Geographic Location	Device Type	Bleed Rate	Manufacturer	Pressure (psi)	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor or Engineering Estimate (Mscf/day/dev)	Annual Emissions (Mscf)	Explanatory Notes / Comments
6094942 A	93111	PR	NA	Misc.	NA	3/18/2016	3/18/2016	78	0.9518	74.2	
6094942 B	93111	PR	NA	Misc.	NA	3/18/2016	3/18/2016	78	0.9518	74.2	
6094942 C	93111	C	NA	Misc.	NA	3/18/2016	3/18/2016	78	0.1358	10.6	
6224045	93111	M	NA	Misc.	NA	9/1/2016	9/1/2016	245	0.4639	113.7	
6045474	93111	V	NA	Misc.	NA	2/3/2016	2/3/2016	34	0.3562	12.1	
6045501	93111	V	NA	Misc.	NA	2/3/2016	2/3/2016	34	0.3562	12.1	
6045392	93111	V	NA	Misc.	NA	2/3/2016	2/3/2016	34	0.3562	12.1	
6045394	93111	C	NA	Misc.	NA	2/3/2016	2/3/2016	34	0.1358	4.6	
6045500	93111	V	NA	Misc.	NA	2/4/2016	2/11/2016	42	0.3562	15.0	
6045503	93111	C	NA	Misc.	NA	2/4/2016	2/5/2016	36	0.1358	4.9	
6045504	93111	C	NA	Misc.	NA	2/4/2016	2/4/2016	35	0.1358	4.8	
6045505	93111	C	NA	Misc.	NA	2/4/2016	2/4/2016	35	0.1358	4.8	
6045506	93111	C	NA	Misc.	NA	2/4/2016	2/5/2016	36	0.1358	4.9	
6045507	93111	V	NA	Misc.	NA	2/4/2016	2/4/2016	35	0.3562	12.5	
6045509	93111	C	NA	Misc.	NA	2/4/2016	2/4/2016	35	0.1358	4.8	
6045510	93111	V	NA	Misc.	NA	2/4/2016	2/4/2016	35	0.3562	12.5	
6045395	93111	C	NA	Misc.	NA	2/3/2016	2/5/2016	36	0.1358	4.9	
6045397	93111	C	NA	Misc.	NA	2/3/2016	2/4/2016	35	0.1358	4.8	
6223007	93111	C	NA	Misc.	NA	8/25/2016	8/26/2016	239	0.1358	32.5	
6238345	93111	M	NA	Misc.	NA	9/14/2016	9/14/2016	258	0.4639	119.7	
6238532	93111	PR	NA	Misc.	NA	9/16/2016	9/16/2016	260	0.9518	247.5	
6138430	93111	V	NA	Misc.	NA	5/5/2016	5/5/2016	126	0.3562	44.9	
6169015	93111	V	NA	Misc.	NA	6/15/2016	6/15/2016	167	0.3562	59.5	
6045321	93111	V	NA	Misc.	NA	2/1/2016	2/2/2016	33	0.3562	11.8	
6045502	93111	V	NA	Misc.	NA	2/4/2016	2/5/2016	36	0.3562	12.8	
6195279	93111	C	NA	Misc.	NA	7/11/2016	7/11/2016	193	0.1358	26.2	
6281315	93111	C	NA	Misc.	NA	11/14/2016	11/30/2016	335	0.1358	45.5	
6045530	90293	V	NA	Misc.	NA	2/2/2016	2/3/2016	34	0.3562	12.1	
6102681	90293	V	NA	Misc.	NA	4/8/2016	5/4/2016	125	0.3562	44.5	
6195281	90293	V	NA	Misc.	NA	7/13/2016	8/16/2016	229	0.3562	81.6	
6257573	90293	C	NA	Misc.	NA	10/14/2016	12/1/2016	336	0.1358	45.6	
6136335 A	90293	V	NA	Misc.	NA	5/2/2016	5/10/2016	131	0.3562	46.7	
6136335 B	90293	V	NA	Misc.	NA	5/2/2016	5/10/2016	131	0.3562	46.7	
6136335 C	90293	V	NA	Misc.	NA	5/2/2016	5/10/2016	131	0.3562	46.7	
6045052	90293	PR	NA	Misc.	NA	1/30/2016	2/3/2016	34	0.9518	32.4	
6076043	90293	V	NA	Misc.	NA	2/25/2016	3/1/2016	61	0.3562	21.7	
6093269	90293	C	NA	Misc.	NA	3/6/2016	3/7/2016	67	0.1358	9.1	
6121780	90293	PR	NA	Misc.	NA	4/19/2016	5/5/2016	126	0.9518	119.9	
6121781	90293	PR	NA	Misc.	NA	4/19/2016	5/5/2016	126	0.9518	119.9	
6153426	90293	C	NA	Misc.	NA	5/29/2016	6/24/2016	176	0.1358	23.9	
6281470	90293	PR	NA	Misc.	NA	11/15/2016	12/6/2016	341	0.9518	324.6	
6286754	90293	V	NA	Misc.	NA	11/27/2016	12/2/2016	337	0.3562	120.0	
6307334	90293	V	NA	Misc.	NA	12/20/2016	M	366	0.3562	130.4	
6153423	90640	C	NA	Misc.	NA	5/29/2016	5/29/2016	150	0.1358	20.4	

ID	Geographic Location	Device Type	Bleed Rate	Manufacturer	Pressure (psi)	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor or Engineering Estimate (Mscf/day/dev)	Annual Emissions (Mscf)	Explanatory Notes / Comments
6307204	90640	C	NA	Misc.	NA	12/17/2016	12/17/2016	352	0.1358	47.8	
6061416	90640	C	NA	Misc.	NA	1/13/2016	1/13/2016	13	0.1358	1.8	
6063514	90640	PR	NA	Misc.	NA	2/16/2016	2/16/2016	47	0.9518	44.7	
6076019	90640	C	NA	Misc.	NA	2/24/2016	2/24/2016	55	0.1358	7.5	
6076058	90640	C	NA	Misc.	NA	2/24/2016	2/25/2016	56	0.1358	7.6	
6079948	90640	V	NA	Misc.	NA	3/3/2016	3/9/2016	69	0.3562	24.6	
NA	91326	M	NA	Misc.	NA	1/30/2016	(*)	7	0.4639	3.2	1 device - (*) Assumed one week duration due to daily well inspection and leak repair activities.
NA	91326	V	NA	Misc.	NA	9/06/16 - 09/28/1	M	366	0.3562	13,687.2	105 devices. GHG Subpart W survey
NA	91326	PR	NA	Misc.	NA	9/06/16 - 09/28/1	M	366	0.9518	348.4	1 device. GHG Subpart W survey
NA	91355	C	NA	Misc.	NA	8/22/16 - 08/31/1	8/31/2016	244	0.1358	99.4	3 devices. GHG Subpart W survey
NA	91355	C	NA	Misc.	NA	8/22/16 - 08/31/1	M	366	0.1358	596.5	12 devices. GHG Subpart W survey
NA	91355	PR	NA	Misc.	NA	8/22/16 - 08/31/1	M	366	0.9518	348.4	1 device. GHG Subpart W survey
NA	91355	PR	NA	Misc.	NA	8/22/16 - 08/31/1	8/31/2016	244	0.9518	464.5	2 devices. GHG Subpart W survey
NA	91355	V	NA	Misc.	NA	8/22/16 - 08/31/1	M	366	0.3562	6,387.4	49 devices. GHG Subpart W survey
NA	91355	V	NA	Misc.	NA	8/22/16 - 08/31/1	8/31/2016	244	0.3562	4,518.9	52 devices. GHG Subpart W survey
Sum Total										29,506	

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 7

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 question in the above mentioned data request is answered using the spreadsheets in this Appendix (#7):

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

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:

Underground Storage Dehydrator Vented Emissions:

ID	Geographic Location	Number of Sources	Emission Factor (Mscf/yr/MMSCF)	Annual Emissions (Mscf)	Explanatory Notes / Comments
NA	All Storage Facilities	All Facilities	0.124	7,452.92	Appendix 9 EF is 0.00223 MT CH4/MMSCF withdrawn. Volume withdrawn from all storage facilities in 2016 was 60,318.552 MMSCF. Density of CH4 is 0.0192 kg/scf.
9316	90640	1	NA	5.256	Vapor Recovery Regulator intermittent bleed when operated. Per Appendix 9 EF = 0.0576 Mscf/day. Assumed operated 25% of time.
Sum Total				7,458.18	