SDG&E June 15, 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 5; Rev. 03/30/2021

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.

Distribution M&R Station Leaks and Emissions

Number of Stations	Station Classification	Emission Factor (Mscf/yr)	Annual Emissions (Mscf)	Explanatory Notes / Comments
2	A1	40.6	NA	2020 EOY Above Grade < 100# Actual Inlet Press
16	A2	896.5	NA	2020 Above Grade 100 - 300# Actual Inlet Press
34	A3	1684.5	NA	2020 EOY Above Grade > 300# Actual Inlet Press
12	B1	0.964	NA	2020 EOY Below Grade < 100# Actual Inlet Press
102	B2	1.84	NA	2020 Below Grade 100 - 300# Actual Inlet Press
304	B3	12.176	NA	2020 EOY Below Grade > 300# Actual Inlet Press
			NA	

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In Response to Data Request, R15-01-008 - 2021 June Report

Appendix 5; Rev. 03/30/2021

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

Distribution M&R Station 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	Emission Factor (Mscf/Day)	Annual Emissions (Mscf)	Explanatory Notes / Comments

Sum total 0

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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

Distribution M&R Station Blowdowns:

ID	Geographic Location	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments
N/A	SDG&E Territory	2,080	8	External District Reg. Inspection at Distribution M&R Stations - Estimated avg. gas vented = 4 scf/insp
N/A	SDG&E Territory	10	0	Filter Change out or Filter Inspection w/parts replacement - Estimated avg. gas vented = 30 scf/ea
N/A	SDG&E Territory	470	6	M&R Station Inspection Blowdown
N/A	SDG&E Territory	128	2	Reg. Change out & Internal Reg. Inspesction at Distribution M&R Stations - Estimated avg. gas vented = 12 scf/ea
			16	

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Notes:

The data collected on this sheet is for informational purposes and may not be included in the emissions inventory for 2020. The worksheet is designed to track actual emissions for future reference and to determine if an actual leak based emission accounting is feasible for M&R stations.

If you record data using this table and you only leak survey part of your system, you must extrapolate emissions from leaks up to account for emissions from your entire system for the year.

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 on the Blowdowns worksheet.

Distribution M&R Station Component Vented Emissions:

ID	Geographic Location	Station Classification	Device Type	Bleed Rate	Manufacturer	Number of Days Emitting	Engineering or Manufacturer's based Estimate of Emissions	Annual Emissions (Mscf)	Explanatory Notes / Comments

Note: No devices

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Notes:

The data collected on this sheet is for informational purposes and will not be included in the emissions inventory for 2020. The worksheet is designed to track actual leaks for future reference and to determine if an actual leak based emission accounting is feasible for M&R stations.

If you record data using this table and you only leak survey part of your system, you must extrapolate emissions from leaks up to account for emissions from your entire system for the year.

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 component is releasing gas or "bleeding" as a result of its design or function then it is not to be captured in this tab.

Distribution M&R Station Component Fugitive Leaks:

ID	Geographic Location	Station Classification	Device Type	Bleed Rate	Manufacturer	Pressure (psi)	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor (Mscf/day)	Annual Emissions (Mscf)	Explanatory Notes / Comments
100018310013.00	92145	A3	BV		Rockwell (Hyperse	Greater than 60	8/5/2020	8/5/2020	217.00	0.0143	3.1031	
100018574961.00	92131	A3	C			Greater than 60	8/26/2020	8/26/2020	238.00	0.0434	10.3292	
100018495534.00	92130	A3	C			Greater than 60	8/8/2020	8/8/2020	220.00	0.0434	9.548	
100017529308.00	92129	A3	C			Greater than 60	2/6/2020	2/6/2020	36.00	0.0434	1.5624	
100017412118.00	92128	A3	C			Greater than 60	1/19/2020	1/19/2020	18.00	0.0434	0.7812	
100017502964.00	92126	A3	C			Greater than 60	4/3/2020	4/3/2020	93.00	0.0434	4.0362	
100017587702.00	92123	A3	C			Greater than 60	2/17/2020	2/17/2020	47.00	0.0434	2.0398	
100018325329.00	92121	A3	C			Greater than 60	7/1/2020	7/1/2020	182.00	0.0434	7.8988	
100017675262.00	92118	A1	C			Less than or equal to 60	3/13/2020	3/13/2020	72.00	0.0434	3.1248	
100018459619.00	92110	A3	BV			Greater than 60	9/15/2020	9/15/2020	258.00	0.0143	3.6894	
100018219092.00	92054	A2	C			Greater than 60	6/24/2020	6/24/2020	175.00	0.0434	7.595	
100018182204.00	92054	A2	C			Greater than 60	6/12/2020	6/12/2020	163.00	0.0434	7.0742	
100017315472.00	92037	A2	BV		Kerotest	Greater than 60	2/7/2020	2/7/2020	37.00	0.0143	0.5291	
100018882709.00	92037	A2	C			Greater than 60	11/6/2020	11/6/2020	310.00	0.0434	13.454	
100017587701.00	92037	A2	C			Greater than 60	2/11/2020	2/11/2020	41.00	0.0434	1.7794	
100017317594.00	92037	A2	C			Greater than 60	2/7/2020	2/7/2020	37.00	0.0434	1.6058	
100018459768.00	92028	A3	C			Greater than 60	9/11/2020	9/11/2020	254.00	0.0434	11.0236	
100018413104.00	92028	A3	R			Greater than 60	9/11/2020	9/11/2020	254.00	0.0198	5.0292	
100018744130.00	92025	A3	C			Greater than 60	10/2/2020	10/2/2020	275.00	0.0434	11.935	
100018868556.00	92020	A2	C			Greater than 60	11/3/2020	11/3/2020	307.00	0.0434	13.3238	
100018641435.00	91942	A3	C			Greater than 60	9/14/2020	9/14/2020	257.00	0.0434	11.1538	
100018884654.00	91941	A3	C			Greater than 60	11/6/2020	11/6/2020	310.00	0.0434	13.454	
100018310101.00	91913	A2	BV			Greater than 60	8/3/2020	8/3/2020	215.00	0.0143	3.0745	
100018922044.00	NA	A2	C			Greater than 60	11/17/2020	11/17/2020	321.00	0.0434	13.9314	
100019235280.00	NA		C			Unknown	10/7/2020	10/7/2020	280.00	0.0434	12.152	
100018915829.00	NA	A2	C			Greater than 60	11/17/2020	11/17/2020	321.00	0.0434	13.9314	
100017142292.00	NA	A3	C			Greater than 60	1/28/2020	1/28/2020	27.00	0.0434	1.1718	
100018895729.00	NA	A3	C			Greater than 60	11/10/2020	11/10/2020	314.00	0.0434	13.6276	
100017923323.00	NA	A2	R		Grove	Greater than 60	6/12/2020	6/12/2020	163.00	0.0198	3.2274	
100017923072.00	NA	A2	R		Grove	Greater than 60	6/12/2020	6/12/2020	163.00	0.0198	3.2274	
100017923450.00	NA	A2	R		Grove	Greater than 60	6/12/2020	6/12/2020	163.00	0.0198	3.2274	
100017347179.00	NA	A2	C			Greater than 60	1/7/2020	1/7/2020	6.00	0.0434	0.2604	
100019080874.00	NA	A3	C			Greater than 60	12/14/2020	12/14/2020	348.00	0.0434	15.1032	
100018691859.00	NA	A3	C			Greater than 60	9/24/2020	9/24/2020	267.00	0.0434	11.5878	
100019076415.00	NA	A3	C			Greater than 60	12/11/2020	12/11/2020	345.00	0.0434	14.973	
100017367770.00	NA	A3	C			Greater than 60	1/13/2020	1/13/2020	12.00	0.0434	0.5208	
100019069266.00	NA	A3	C			Greater than 60	12/21/2020	12/21/2020	355.00	0.0434	15.407	
											269.49	

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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.

Distribution M&R Station Component Fugitive Leaks:

ID	Geographic Location	Station Classification	Device Type	Bleed Rate	Manufacturer	Pressure (psi)	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor (Mscf/day)	Annual Emissions (Mscf)	Explanatory Notes / Comments
510000715528		92130 B3	C				12/20/2019	12/20/2019	354	0.0434	15.3636	
510000715415		92116 B3	C				12/17/2019	12/17/2019	351	0.0434	15.2334	
510000700745		92027 B3	C				11/11/2019	11/11/2019	315	0.0434	13.671	
510000699877		92026 B3	C				10/31/2019	10/31/2019	304	0.0434	13.1936	
510000699173		92069 B3	C				10/23/2019	10/23/2019	296	0.0434	12.8464	
510000698668		92008	C				10/15/2019	10/15/2019	288	0.0434	12.4992	
510000697814		92123 B3	C				10/9/2019	10/9/2019	282	0.0434	12.2388	
510000694467		92069 B3	C				10/8/2019	10/8/2019	281	0.0434	12.1954	
510000694481		92117 B3	C				10/4/2019	10/4/2019	277	0.0434	12.0218	
510000694438		92107 B1	R		MOONEY SERIES 20		10/3/2019	10/3/2019	276	0.0198	5.4648	
510000697525		91941 B3	C				10/3/2019	10/3/2019	276	0.0434	11.9784	
510000694452		91941 B3	BV		ROCKWELL (STD.)		10/2/2019	10/2/2019	275	0.0143	3.9325	
510000696541		92024 B3	C				9/30/2019	9/30/2019	273	0.0434	11.8482	
510000694443		91950 B3	C				9/6/2019	9/6/2019	249	0.0434	10.8066	
510000694585		91950 B3	C				9/3/2019	9/3/2019	246	0.0434	10.6764	
510000691095		92106 B1	C				8/19/2019	8/19/2019	231	0.0434	10.0254	
510000670414		92037 B2	C				6/20/2019	6/20/2019	171	0.0434	7.4214	
510000670414		92037 B2	R		MOONEY SERIES 20		6/20/2019	6/20/2019	171	0.0198	3.3858	
510000670416		92110 B3	C				6/19/2019	6/19/2019	170	0.0434	7.378	
510000678352		92123	C				6/19/2019	6/19/2019	170	0.0434	7.378	
510000670425		91914 B2	BV		ROCKWELL (STD.)		6/18/2019	6/18/2019	169	0.0143	2.4167	
510000670425		91914 B2	BV		ROCKWELL (STD.)		6/18/2019	6/18/2019	169	0.0143	2.4167	
510000670428		91977 B3	C				6/13/2019	6/13/2019	164	0.0434	7.1176	
510000677511		92107 B1	C				6/6/2019	6/6/2019	157	0.0434	6.8138	
510000677188		92124	C				6/5/2019	6/5/2019	156	0.0434	6.7704	
510000676729		92126 B3	C				5/29/2019	5/29/2019	149	0.0434	6.4666	
510000663537		92128 B3	C				5/10/2019	5/10/2019	130	0.0434	5.642	
510000665877		92021 B3	C				4/26/2019	4/26/2019	116	0.0434	5.0344	
510000665246		92069 B3	C				4/16/2019	4/16/2019	106	0.0434	4.6004	
510000656157		92154 B3	C				4/11/2019	4/11/2019	101	0.0434	4.3834	
510000656157		92154 B3	BV		ROCKWELL (STD.)		4/11/2019	4/11/2019	101	0.0143	1.4443	
510000664368		92124	C		Y - TRAP		4/2/2019	4/2/2019	92	0.0434	3.9928	
510000657575		91941 B3	C				3/22/2019	3/22/2019	81	0.0434	3.5154	
510000656017		91950 B3	C				2/28/2019	2/28/2019	59	0.0434	2.5606	
510000655337		92024 B3	C				2/25/2019	2/25/2019	56	0.0434	2.4304	
510000651262		92128 B3	C				2/21/2019	2/21/2019	52	0.0434	2.2568	
510000642172		92037 B2	R		MOONEY SERIES 20		2/12/2019	2/12/2019	43	0.0198	0.8514	
510000643846		92154 B3	C				1/25/2019	1/25/2019	25	0.0434	1.085	
510000634759		92081 B2	R		FISHER 32		1/23/2019	1/23/2019	23	0.0198	0.4554	
510000642362		92028	C				1/4/2019	1/4/2019	4	0.0434	0.1736	
510000634771		92028 B3	C				1/2/2019	1/2/2019	2	0.0434	0.0868	
510000634771		92028 B3	R		FISHER 627 R		1/2/2019	1/2/2019	2	0.0198	0.0396	
510000718733		92069 B3	C				12/29/2019	12/29/2019	363	0.0434	15.7542	
510000677427		92129 B3	C				6/7/2019	6/7/2019	158	0.0434	6.8572	
510000656169		92057 B3	R		MOONEY LP-FLANGD-300		4/11/2019	4/11/2019	101	0.0198	1.9998	
											304.72	

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Header column "Comment" boxes displayed below for reference.	
Column Heading	**Description and Definition of Required Contents (If not self-explanatory)**
Station Leaks & Emissions	
Number of Stations	
Station Classification	A1 = above grade, pressure <100 psi A2 = above grade, pressure =100-300 psi A3 = above grade, pressure >300 psi B1 = below grade, pressure <100 psi B2 = below grade, pressure =100-300 psi B3 = below grade, pressure >300 psi
Emission Factor (Mscf/yr)	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	

Note, Farm Taps added to column as described in note.

Tab: All Damages	
ID	
Geographic Location	GIS, zip code, or equivalent
Damage Type	E = excavation damage N = natural force damage O = other outside force damage
Pipe Material	PB = cathodically protected steel, bare PC = cathodically protected steel, coated UB = unprotected steel, bare UC = unptotected steel, coated
Pipe Size (nominal)	
Pipe Age (months)	

Pressure (psi)	MOP = maximum operating pressure over the past year
Leak Grade	2 = grade 2 2+ = grade 2+ 3 = grade 3 N = non-graded or ungraded
Above Ground or Below Ground	AH = above ground, hazardous AN = above ground, non-hazardous B = below ground
Discovery Date (MM/DD/YY)	
Repair Date (MM/DD/YY)	
Number of Days Leaking	If date and time stamp are reliable and used consistently by respondent, then emissions may be calculated based on actual time leaking. E.G. Repair time - damage event time = duration of event. If respondent has average or historical leak duration based on the nature and circumstances of damages, then these may be applied to like damage events. The emissions factors should be adequately supported and explained in the filing. If actual time stamps and historical averages are not available, then whole days should be used in the engineering calculation. The leak begins with the damage event date thru repair date or December 31st of subject year, whichever is later. E.G. Days Leaking = Repair date - date of damage + 1 day.
Emission Factor (Mscf/Day)	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	Provide method of calculation and example of formula. Explain how any EF's used were derived.

Blowdowns	
ID	
Geographic Location	GIS, zip code, or equivalent
Number of Blowdown Events	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	

Component Vented Emissions	
ID	
Geographic Location	GIS, zip code, or equivalent
Station Classification	A1 = above grade, pressure <100 psi A2 = above grade, pressure =100-300 psi A3 = above grade, pressure >300 psi B1 = below grade, pressure <100 psi B2 = below grade, pressure =100-300 psi B3 = below grade, pressure >300 psi
DeviceType	C = connector OE = open-ended line M = meter P = pneumatic device PR = pressure relief valve V = valve O = other devices
Bleed Rate	L = low bleed I = intermittent bleed H = high bleed NA = not applicable
Manufacturer	
NumberofDays Emitting	Because the emissions are a factor of design or function, these emissions counted for the entire year.

Engineering or Manufacturer's based Estimate of Emissions	
Annual Emissions(Mscf)	The emissions should be based on 365 days times the actual volume emitting if known, or the approved Emissions Factor. Note whether the emissions are based on actual volumetric measures in the next column.
Explanatory Notes / Comments	

Component Leaks	
ID	
Geographic Location	GIS, zip code, or equivalent
Station Classification	A1 = above grade, pressure <100 psi A2 = above grade, pressure =100-300 psi A3 = above grade, pressure >300 psi B1 = below grade, pressure <100 psi B2 = below grade, pressure =100-300 psi B3 = below grade, pressure >300 psi
DeviceType	C = connector OE = open-ended line M = meter P = pneumatic device PR = pressure relief valve V = valve O = other devices
Bleed Rate	L = low bleed I = intermittent bleed H = high bleed NA = not applicable
Manufacturer	
Pressure(psi)	MOP = maximum operating pressure over the past year

Discovery Date(MM/DD/YY)	List the actual discovery date. If the leak was discovered in the year of interest, then we will assume the component was leaking from the beginning of the year for emissions reporting purposes.
Repair Date(MM/DD/YY)	Date that the component repair stopped the leak. Any associated blowdowns as a result of the repair should be included in the blowdowns tab.
NumberofDays Leaking	Assume Leaking from January 1 of subject year or prior survey date, whichever is later, thru the repair date (if repaired in year of interest) or December 31 of subject year, whichever is earlier. For O&M discovered leaks, assume that the leak begins with the discovery date thru repair date or December 31st of subject year, whichever is earlier.
Emission Factor(Mscf/day)	
Annual Emissions(Mscf)	
Explanatory Notes / Comments	