SDG&E, June 14, 2019

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 2019 June Report
Appendix 5; Rev. 03/29/2019

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/station)	Annual Emissions (Mscf)	Explanatory Notes / Comments
9	B1	0.964	8.676	2018 EOY Below Grade < 100# Actual Inlet Press
65	B2	1.84	119.6	2018 Below Grade 100 - 300# Actual Inlet Press
351	B3	12.176	4273.776	2018 EOY Below Grade > 300# Actual Inlet Press
2	A1	40.6	81.2	2018 EOY Above Grade < 100# Actual Inlet Press
12	A2	896.5	10758	2018 Above Grade 100 - 300# Actual Inlet Press
36	A3	1684.5	60642	2018 EOY Above Grade > 300# Actual Inlet Press
		Sum Total	**75,883**	

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In Response to Data Request, R15-01-008 - 2019 June Report

Appendix 5 - Rev. 03/29/19

Notes:

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

1

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
100011521491	92069	N	Steel	NP	554	Greater than 60	AN	A	8/9/2018	8/9/2018	1	0.096	0.1	Emission calculated based on company emission factor for aboveground facilities.
100012170545	92126	O	Steel	NP	566	Greater than 60	AH	A	5/7/2018	5/7/2018	1	0.096	0.1	Emission calculated based on company emission factor for aboveground facilities.
												Sum Total	0.2	

SDG&E, June, 14, 2019

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In Response to Data Request, R15-01-008 2019 June Report

Appendix 5; Rev. 03/29/2019

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	475	6.42	M&R Station Inspection Blowdown.
N/A	SDG&E Territory	2,138	8.6	External District Reg. Inspection at Distribution M&R Stations - Estimated avg. gas vented = 4 scf/insp
N/A	SDG&E Territory	170	2.0	Reg. Change out & Internal Reg. Inspection at Distribution M&R Stations - Estimated avg. gas vented = 12 scf/ea
N/A	SDG&E Territory	118	3.5	Filter Change out & Filter Inspection at Distribution M&R Stations - Estimated avg. gas vented = 30 scf/ea.
	Sum Total		21	

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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 2018. 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	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								
						Sum Total	0	

SDG&E, June, 14, 2019

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Appendix 5; Rev. 03/29/2019

Notes:

The data collected on this sheet is for informational purposes and will not be included in the emissions inventory for 2018. 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	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
2010-7.46-9-1673-314	92071	V	N/A	N/A	N/A	10/4/2018	10/4/2018	277	N/A	N/A	Valve component on Distribution M&R Station. Emissions included in facility emission factors.
100011438784	92024	O	N/A	N/A	Greater than 60	1/24/2018	1/24/2018	24	N/A	N/A	Pipe, Weld, or Joint Failure component on Distribution M&R Station. Emissions included in facility emission factors
100011484705		O	N/A	N/A	Greater than 60	8/9/2018	8/9/2018	221	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100011525289	92024	O	N/A	N/A	Greater than 60	1/2/2018	1/2/2018	2	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100011593496	92037	O	N/A	N/A	Greater than 60	1/19/2018	1/19/2018	19	N/A	N/A	Pipe, Weld, or Joint Failure component on Distribution M&R Station. Emissions included in facility emission factors
100011600502	92128	O	N/A	N/A	Greater than 60	1/16/2018	1/16/2018	16	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100011649900		O	N/A	N/A	Greater than 60	3/19/2018	3/19/2018	78	N/A	N/A	Pipe, Weld, or Joint Failure component on Distribution M&R Station. Emissions included in facility emission factors
100011824648	91910	V	N/A	N/A	Greater than 60	4/30/2018	4/30/2018	120	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100011824652	91910	V	N/A	N/A	Greater than 60	4/30/2018	4/30/2018	120	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100011826822	91910	O	N/A	N/A	Greater than 60	4/30/2018	4/30/2018	120	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100011886156	92128	O	N/A	N/A	Greater than 60	3/14/2018	3/14/2018	73	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100011967958	92084	O	N/A	N/A	Greater than 60	3/29/2018	3/29/2018	88	N/A	N/A	Pipe, Weld, or Joint Failure component on Distribution M&R Station. Emissions included in facility emission factors
100011999928	92026	O	N/A	N/A	Greater than 60	3/17/2018	3/17/2018	76	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012000839	92128	O	N/A	N/A	Greater than 60	4/4/2018	4/4/2018	94	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012014627	92056	O	N/A	N/A	Greater than 60	3/3/2018	3/3/2018	62	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012115141	92037	O	N/A	N/A	Greater than 60	4/26/2018	4/26/2018	116	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012170415	92113	O	N/A	N/A	Greater than 60	5/8/2018	5/8/2018	128	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012607373	92024	O	N/A	N/A	Greater than 60	7/26/2018	7/26/2018	207	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012628156	91978	V	N/A	N/A	Greater than 60	9/11/2018	9/11/2018	254	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012630300	91978	O	N/A	N/A	Greater than 60	9/11/2018	9/11/2018	254	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012855670	92026	O	N/A	N/A	Greater than 60	9/25/2018	9/25/2018	268	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012874887	92082	O	N/A	N/A	Greater than 60	10/1/2018	10/1/2018	274	N/A	N/A	Pipe, Weld, or Joint Failure component on Distribution M&R Station. Emissions included in facility emission factors
100012889932	92028	O	N/A	N/A	Greater than 60	10/3/2018	10/3/2018	276	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100012900998	92154	O	N/A	N/A	Greater than 60	10/3/2018	10/3/2018	276	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100013390700	92029	O	N/A	N/A	Greater than 60	12/10/2018	12/10/2018	344	N/A	N/A	Pipe, Weld, or Joint Failure component on Distribution M&R Station. Emissions included in facility emission factors
100013393681	92084	O	N/A	N/A	Greater than 60	12/11/2018	12/11/2018	345	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100013393684	92020	O	N/A	N/A	Greater than 60	12/11/2018	12/11/2018	345	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
100013466113	92108	O	N/A	N/A	Greater than 60	12/26/2018	12/26/2018	360	N/A	N/A	Equipment failure component on Distribution M&R Station. Emissions included in facility emission factors
									Sum Total	0	

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	

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
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
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	