

Place formulae derived values with the formula used in the General Restrictions column. Show one example and make as many

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SDG&E, July 1st, 2024

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 - 2024 June Report  
Appendix 3; Rev. 03/29/2024

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.

Transmission Compressor Station Blowdowns:

ID	Geographic Location	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments
BD-2023-767	92555	1	8.71	Maintenance blowdown
BD-2023-768	92555	1	1.81	Maintenance blowdown
BD-2023-769	92555	1	22.85	Maintenance blowdown
BD-2023-770	92555	1	3.82	Maintenance blowdown
BD-2023-960	92555	1	9.76	Maintenance blowdown
BD-2023-961	92555	1	130.57	ESD test
BD-2023-962	92555	1	5.21	No Demand
BD-2023-963	92555	1	57.74	Maintenance blowdown
BD-2023-964	92555	1	5.14	No Demand
BD-2023-965	92555	1	9.84	Maintenance blowdown
BD-2023-966	92555	1	22.84	Maintenance blowdown
BD-2023-967	92555	1	9.41	Maintenance blowdown
BD-2023-968	92555	1	7.24	No Demand
BD-2023-969	92555	1	7.26	No Demand
BD-2023-970	92555	1	22.93	Maintenance blowdown
BD-2023-971	92555	1	59.44	Maintenance blowdown
BD-2023-972	92555	1	22.61	Maintenance blowdown
BD-2023-973	92555	1	9.64	Maintenance blowdown
BD-2023-1101	92555	1	107.50	Maintenance blowdown
NA	92555	62	1.24	Relief Valve Inspections - Estimated avg. gas vented = 20 scf/insp
NA	92555	17	0.43	Meter/orifice 25 scf/each
NA	92555	9	0.27	Filter Change-outs or Filter Inspections w/parts replacement - Estimated avg. gas vented = 30 scf/ea
NA	92555	6	0.01	Controllers - Estimated avg. gas vented = 2 scf/insp (Actuator/Controller)
NA	92555	19	0.04	Actuators - Estimated avg. gas vented = 2 scf/insp (Actuator/Controller)
NA	SDG&E Territory	27	7.37	Blowdown for valve changes at LNG facility
NA	SDG&E Territory	21	44.17	Total Gas Lost Due to filling operations at LNG facility
Sum Total			578	

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**Appendix 3; Rev. 03/29/2024**

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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 on the Blowdowns worksheet.

**Transmission Compressor Station Component Vented Emissions:**

ID	Geographic Location	Device Type	Bleed Rate	Manufacturer	Engineering or Manufacturer's based Estimate of Emissions	Annual Emissions (Mscf)	Explanatory Notes / Comments
16	92555 P	I		Misc.	0.0576	336.38	
Sum Total						336	

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Please include emissions from leaks found with concentrations below 10,000ppm, and add them in the total emissions column. Please use the associated emission factors provided in Appendix 9, Emission Factors.

Transmission Compressor Station: Compressor and Component Fugitive Leaks:						12/31/23	01/31/23			
ID	Geographic Location	Facility/Device Type	Emission Factor: Mscf/day/dev	Manufacturer	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Prior Survey Date (MM/DD/YY)	Number of Days Leaking	Annual Emissions (Mscf)	Explanatory Notes / Comments
8545355	9255S V		0.1541		3/22/2023	4/6/2023	11/15/2022	80	12.3	
8545292	9255S V		0.1541		3/22/2023	4/7/2023	11/15/2022	81	12.4	
8545376	9255S C		0.137		3/23/2023	4/7/2023	11/15/2022	80	11.0	
8545385	9255S OT		0.0984		4/12/2023	5/18/2023	1/19/2023	79	7.7	compressor component
8545440	9255S C		0.137		4/13/2023	4/14/2023	1/19/2023	44	6.0	
8545544	9255S V		0.1541		4/26/2023	4/28/2023	1/19/2023	52	7.9	
8545546	9255S V		0.1541		5/3/2023	5/4/2023	1/19/2023	54	8.3	
8545604	9255S OT		0.0984		6/7/2023	6/23/2023	1/19/2023	87	8.5	compressor component
8545581	9255S PR		0.0482		6/19/2023	6/20/2023	1/19/2023	78	3.7	
8545697	9255S C		0.137		6/25/2023	6/25/2023	1/19/2023	80	10.9	
8545693	9255S V		0.1541		6/25/2023	6/26/2023	1/19/2023	81	12.4	
8545975	9255S V		0.1541		8/3/2023	8/3/2023	4/5/2023	61	9.4	
8546131	9255S V		0.1541		9/5/2023	9/7/2023	4/5/2023	80	12.3	
8546079	9255S V		0.3562		9/7/2023	9/7/2023	4/5/2023	79	28.0	compressor component
8546123	9255S V		0.1541		9/13/2023	9/19/2023	4/5/2023	88	13.5	
8545965	9255S C		0.137		12/28/2023	12/28/2023	8/2/2023	75	10.3	
8545360	9255S OT		0.0984		1/19/2023	3/15/2023	11/15/2022	89	8.7	
8545380	9255S V		0.1541		2/16/2023	2/16/2023	11/16/2022	47	7.2	
8545430	9255S V		0.1541		4/13/2023	4/19/2023	1/19/2023	49	7.6	
8545601	9255S V		0.1541		6/1/2023	6/1/2023	1/20/2023	67	10.3	
8545602	9255S C		0.137		6/19/2023	6/19/2023	1/21/2023	76	10.3	
8545616	9255S V		0.1541		6/1/2023	6/1/2023	1/22/2023	66	10.2	
8545696	9255S V		0.1541		6/20/2023	7/5/2023	1/23/2023	90	13.9	
MO00352.06	9255S V		0.1541		3/7/2023	3/21/2023	11/15/2022	71	10.9	
MO00642.02	9255S V		0.1541		3/8/2023	3/22/2023	11/15/2022	72	11.0	
MO00376.52	9255S C		0.1342		3/20/2023	3/22/2023	11/15/2022	66	8.8	compressor component
MO00376.62	9255S V		0.3562		3/8/2023	3/22/2023	11/15/2022	72	25.5	compressor component
MO00316.26	9255S OT		0.0984		3/9/2023	3/11/2023	11/15/2022	60	5.9	
MO00029A	9255S V		0.1541		3/9/2023	3/14/2023	11/15/2022	63	9.7	
MO12925A	9255S OT		0.0984		3/9/2023	3/14/2023	11/15/2022	63	6.2	compressor component
MO00018A	9255S V		0.1541		3/9/2023	3/23/2023	11/15/2022	72	11.1	
MO00354	9255S V		0.1541		6/6/2023	6/10/2023	4/5/2023	36	5.5	
MO00321	9255S OT		0.0984		6/7/2023	6/21/2023	4/6/2023	46	4.5	
MO00626.02	9255S C		0.137		6/7/2023	6/11/2023	4/7/2023	36	4.9	
MO00003	9255S V		0.1541		6/8/2023	6/12/2023	4/8/2023	36	5.5	
MO00023.04	9255S V		0.1541		6/8/2023	6/10/2023	4/9/2023	33	5.1	
MO00018	9255S V		0.1541		12/18/2023	12/18/2023	9/18/2023	47	7.2	
8273752	9255S V		0.1541		11/15/2022	8/30/2023	8/24/2022	284	43.7	
8273756	9255S V		0.1541		11/15/2022	5/30/2023	8/24/2022	192	29.5	
7993314	9255S V		0.1541		3/16/2022	3/29/2023	12/6/2021	138	21.3	
8273757	9255S V		0.1541		11/16/2022	4/7/2023	8/24/2022	139	21.4	
8273763	9255S V		0.1541		11/17/2022	4/7/2023	8/24/2022	140	21.5	
Sum Total									502	

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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.

**Transmission Compressor Station Storage Tank Emissions:**

Total Number	Discovery Date (DD/MM/YY)	Repair Date (DD/MM/YY)	Number of Days Emitting	Emission Factor (Mscf/yr)	Annual Emissions (Mscf)
				Sum Total	0

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Header column "Comment" boxes displayed below for reference.	
Column Heading	Description and Definition of Required Contents (IF not self-explanatory)
Compressor Vented Emissions	
<b>ID</b>	
<b>Geographic Location</b>	GIS, zip code, or equivalent
<b>Compressor Type</b>	C = centrifugal R = reciprocating
<b>Prime Mover</b>	
<b>Number of Cylinders</b>	
<b>Number of Seals</b>	
<b>Seal Type</b>	W = wet D = dry NA = not applicable
<b>Measurment Frequency</b>	A - Annual Q - Quarterly M - Monthly W - Weekly D - Daily
<b>Emission Factor: Measurement Date - Pressurized Operations</b>	
<b>Operating Mode: Pressurized Operating (hours)</b>	
<b>Operating Mode: Pressurized Idle (hours)</b>	
<b>Operating Mode: Depressurized Idle (hours)</b>	
<b>Operating Mode: Offline (Hours)</b>	
<b>Emission Factor: Pressurized Operating (scf/hr)</b>	Use these EF columns as well as the columns for the Compressor Measurements noted in Columns R thru AB when they are applicable. If the data is not captured by the operator, then add a note explaining why the applicable measurement data was not recorded or available in the Explanatory Notes / Comments column.
<b>Emission Factor: Pressurized Idle (scf/hr)</b>	
<b>Emission Factor: Depressurized Idle (scf/hr)</b>	
<b>Emission Factor: Offline (scf/hr)</b>	If the "Offline" hours are counted, then a measurement of "offline" emissions should be taken to determine whether emissions occur. (We should not assume they are zero.)
<b>Emission Factor: Pressurized Operating - Rod Packing (scf/hr)</b>	These are new columns for reporting year 2020 of 2019 data. These only apply to operators who during their operations and surveys of compressor stations measure their Compressor Vented Emissions for these components of the compressor. Not all gas operators measure vented emissions and establish flow rates for vented emissions while at the various modes of operation.  The current regulations require an annual
<b>Emission Factor: Pressurized Operating - Blowdown Valve (scf/hr)</b>	
<b>Emission Factor: Pressurized Operating - Wet Seal Oil Degassing Vent (scf/hr)</b>	
<b>Emission Factor: Pressurized Operating - Wet Seal (scf/hr)</b>	

<b>Emission Factor: Pressurized Operating - Dry Seal (scf/hr)</b>	<p>CPUC Staff strongly encourage more frequent measurement of the following compressor vented emissions. Compliance minimum is once annually, though Staff suggest the minimum frequency should be quarterly and measured at roughly the same time each quarter (e.g. on or around the component survey given mode of operation). More frequent measurements, e.g. monthly would be better due to the temporal changes in conditions that effect emissions. The more frequent measurements also provide an opportunity to detect worn rod packing or seals, which exacerbate emissions, and with timely awareness of suboptimal operations gas operators have an opportunity for accelerating maintenance to correct worn parts. The following steps for reporting more frequent measurements in 2020 are outlined in the adjacent cell, and should be provided if available.</p>
<b>Emission Factor: Pressurized Idle - Rod Packing (scf/hr)</b>	
<b>Emission Factor: Pressurized Idle - Blowdown Valve (scf/hr)</b>	
<b>Emission Factor: Pressurized Idle - Wet Seal Oil Degassing Vent (scf/hr)</b>	
<b>Emission Factor: Pressurized Idle - Wet Seal (scf/hr)</b>	
<b>Emission Factor: Pressurized Idle - Dry Seal (scf/hr)</b>	
<b>Emission Factor: Pressurized Idle - Isolation Valve (scf/hr)</b>	
<b>Annual Emissions (Mscf)</b>	
<b>Explanatory Notes / Comments</b>	
<b>Blowdowns</b>	
<b>ID</b>	
<b>Geographic Location</b>	GIS, zip code, or equivalent
<b>Number of Blowdown Events</b>	
<b>Annual Emissions (Mscf)</b>	
<b>Explanatory Notes / Comments</b>	
<b>Component Vented Emissions</b>	
<b>ID</b>	
<b>Geographic Location</b>	GIS, zip code, or equivalent
<b>Device Type</b>	C = connector O = open-ended line M = meter P = pneumatic device PR = pressure relief valve V = valve
<b>Bleed Rate</b>	L = low bleed I = intermittent bleed H = high bleed NA = not applicable
<b>Manufacturer</b>	
<b>Engineering or Manufacturer's based Estimate of Emissions</b>	
<b>Annual Emissions (Mscf)</b>	
<b>Explanatory Notes / Comments</b>	
<b>Compressor &amp; Component Fugitive Leaks</b>	
<b>ID</b>	
<b>Geographic Location</b>	GIS, zip code, or equivalent
<b>Device Type</b>	C = connector O = open-ended line M = meter P = pneumatic device PR = pressure relief valve V = valve OT = Other
<b>Emission Factor: Mscf/day/dev</b>	From Appendix 9 use the applicable EF, and if necessary convert it to Mscf/day for each device.
<b>Manufacturer</b>	
<b>Discovery Date (MM/DD/YY)</b>	<p>List the actual discovery date.</p> <p>If the leak was discovered in the year of interest or carried over from prior year, then we will assume the component was leaking from the beginning of the year for emissions reporting purposes, or prior survey date if surveyed previously within the year of interest.</p>

<b>Repair Date (MM/DD/YY)</b>	Date that the component repair stopped the leak. Any associated blowdowns as a result of the repair should be included in the blowdowns tab.
<b>Prior Survey Date (MM/DD/YY)</b>	<p>Before the discovery date of the leak, there was a "Prior Survey Date" when the compressor station was tested and no leak was found.</p> <p>There should be records as to when the compressor station was last surveyed. If the survey spanned two or more days, enter the final date.</p> <p>Note, a facility level survey date is sufficient to establish the prior survey date.</p>
<b>Number of Days Leaking</b>	<p>The algorithm that is used for determining the number of days leaking should conform to the following guidance:  For the number days leaking prior to the date of discovery (survey date in the year of interest), calculate the number of days between the Discovery Date and the Prior Survey Date then divided by 2. [Dividing by 2 approximates the average time leaking between the leak discovery and the prior survey date. See below guidance when a leak is discovered in a prior period and repaired in the year of interest.]</p> <p><math>(\text{Discovery Date} - \text{Prior Survey Date}) / 2</math></p> <p>Calculate the number of days leaking after discovery (survey) date, by subtracting the discovery date from the repair date, unless the leak has not been repaired, where the number of days should be calculated by subtracting the discovery date from December 31 of the year of interest.*</p> <p><math>(\text{Repair Date} - \text{Discovery Date})</math>, unless repair date greater than 12/31/XX then use 12/31/XX</p> <p>---</p> <p><math>\text{Days Leaking} = (\text{Repair Date} - \text{Discovery Date}) + (\text{Discovery Date} - \text{Prior Survey Date}) / 2 + 1</math></p> <p>* [This requires tracking the leak across different years, because the leak could be minor and conceivably span more than year before getting repaired. Therefore, in the cases where a leak is carried over to a subsequent year, an annual calculation should be made to reflect that the number of days leaking in the prior year have already been reported in the annual emissions inventory. In subsequent years the carried over leaks should reflect a beginning date of January 1 of the year of interest.]</p>
<b>Annual Emissions (Mscf)</b>	
<b>Explanatory Notes / Comments</b>	
<b>Storage Tanks</b>	
<b>Total Number</b>	
<b>Discovery Date (DD/MM/YY)</b>	
<b>Repair Date (DD/MM/YY)</b>	
<b>Number of Days Emitting</b>	Emitting from discovery date thru the repair date (if repaired in year of interest) or December 31 of subject year, whichever is earlier. (Duration of Leak = discovery date - repair date (or December 31) + 1 day.)
<b>Emission Factor (Mscf/yr)</b>	
<b>Annual Emissions (Mscf)</b>	