

SoCalGas, June 13th, 2025

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 2025 June Report

Appendix 6; Rev. 03/27/2025

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:

Customer Meter Total Leaks and Emissions (Informational Purposes Only):

Number of Meters	Meter Type	Emission Factor (Mscf/yr)	Annual Emissions (Mscf)
5,940,904	Residential	0.148	879,254
248,509	Commercial	0.051	12,674
23,833	Industrial	0.051	1,215
Sum Total			893,143

Reporting to the Board of Directors and the Audit Committee of the Board of Directors of the Company

Item	Value
1	100
2	200
3	300
4	400
5	500

Item	Description	Value	Unit	Category	Sub-Category	Code	Notes
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1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods used to collect and analyze data. It includes a detailed description of the sampling process and the statistical techniques employed to ensure the reliability of the results.

3. The third part of the document presents the findings of the study. It shows that there is a significant correlation between the variables being studied, and that the results are consistent across different groups and time periods.

4. The fourth part of the document discusses the implications of the findings and provides recommendations for future research. It suggests that further studies should be conducted to explore the underlying causes of the observed trends and to develop effective strategies to address them.

5. The fifth part of the document concludes the study and summarizes the key points. It reiterates the importance of accurate record-keeping and the need for ongoing monitoring and evaluation of the system.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It includes a detailed description of the experimental procedures and the tools used for data collection.

3. The third part of the document presents the results of the study. It includes a series of tables and graphs that illustrate the findings of the research. The data shows a clear trend in the relationship between the variables being studied.

4. The fourth part of the document discusses the implications of the findings. It highlights the potential applications of the research in various fields and the need for further investigation in this area.

5. The fifth part of the document concludes the study and provides a summary of the key findings. It also includes a list of references and a bibliography of the sources used in the research.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements. This section also highlights the role of internal controls in preventing fraud and ensuring the integrity of the data.

2. The second part of the document focuses on the implementation of robust risk management strategies. It outlines the need for a comprehensive risk assessment process that identifies potential threats and vulnerabilities across all areas of the organization. The text stresses the importance of developing effective mitigation plans and regularly reviewing and updating these strategies to address emerging risks.

3. The third part of the document addresses the critical role of human resources in organizational success. It discusses the importance of attracting, developing, and retaining top talent, as well as the need for a strong corporate culture that promotes ethical behavior and high performance. The text also touches upon the importance of employee training and development programs in enhancing the organization's overall capabilities.

4. The fourth part of the document explores the impact of technology on business operations and the need for digital transformation. It discusses how advanced technologies can streamline processes, improve efficiency, and create new opportunities for growth. However, it also notes the challenges associated with digitalization, such as data security and privacy concerns, and emphasizes the need for a strategic approach to technology adoption.

5. The fifth and final part of the document provides a summary of the key findings and recommendations. It reiterates the importance of a holistic approach to organizational management, one that integrates financial, operational, and human capital considerations. The text concludes by encouraging leadership to take decisive action on the recommendations provided to ensure the organization's long-term success and sustainability.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

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5. The fifth part of the document concludes the study and provides a summary of the key findings. It also includes a list of references and a bibliography of the sources used in the research.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. This section also highlights the need for regular audits and reviews to ensure that all data is up-to-date and correct.

2. The second part of the document focuses on the role of technology in modern record-keeping. It explores how digital tools and software can streamline the process, reduce errors, and improve the efficiency of data management. The text also touches upon the importance of data security and privacy in the context of digital records.

3. The third part of the document addresses the challenges associated with record-keeping, such as data loss, corruption, and unauthorized access. It provides strategies and best practices to mitigate these risks, including the use of backup systems, access controls, and regular data integrity checks.

4. The fourth part of the document discusses the legal and regulatory requirements for record-keeping. It outlines the various standards and regulations that organizations must adhere to, depending on their industry and the nature of their records. This section also provides guidance on how to ensure compliance with these requirements.

5. The fifth part of the document concludes by summarizing the key points discussed and reiterating the importance of a robust record-keeping system. It encourages organizations to invest in the necessary resources and expertise to maintain high standards of record-keeping throughout their operations.

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SoCalGas, June 13th, 2025

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 2025 June Report
Appendix 6; Rev. 03/27/2025

Notes:

Please show the calculation for determining the total emissions. If additional worksheets are necessary, please include those to show intermediate calculations, such as the formula for Emissions from Leaks Detected from Survey.
At utilities request, fill out with two, three, or four categories that correspond to the bubble-size classification and label the type of leak, whether AG-Haz, or AG-Non-Haz
If highlighted cells are filled in, the other cells will auto-populate

The term "Non-leaker EF" aligns with CARB's definition for "No Bubble EF" for the event of finding a leak even though not through bubble testing
The number of miles surveyed (Column C) should be the number of unique miles surveyed, and should not include any repeated miles surveyed multiple times per year (Column D).

To clarify the definition of O&M Leaks (Column K), the following criteria for O&M Leaks should be met: (1) occur stochastically across the whole territory, (2) are leak reported by customers, (3) found quickly after occurring, (4) found independently of survey activities but would have been found later by surveyors, and (5) considered a small number of leaks.

To clarify the definition of Survey Leaks (Column G), the following criteria for Survey Leaks should be met: (1) found from company employees or contractors actively searching for leaks (2) including, but not limited to, compliance survey leaks and non-compliance survey leaks (e.g. Super Emitter Programs, Aerial Methane Mapping, Corrosion Surveying.)

Please provide the additional information requested on lines 58-60.

Summary of Data by Meters Survey Interval and Results for Annual System Leak Rate and Resulting Number of Unknown Leaks for Each Meter

Meter Classification (AG-Haz, AG-Non-Haz); Bubble Size Category	Total System Meters per survey Cycle	Meters on Annual Survey [M _{AA}]	Meters on Multi-Year Survey Cycles [M _{MY}]	Survey Interval (yrs) [I]	Meters Surveyed Annually from Multi-Year Survey Cycles [M _{XI}]	Total # of Leaks Detected from Survey [N _{KL}]	Annual Leak Rate [Leaks / Meter] $R_L = \frac{N_{KL}}{M_{AA} + (I \times M_{XI})}$	# of Unknown Leaks $N_{Xunk} = R_L \times (M_{AA}^{int} - M_{KL}) \times \frac{I}{2}$	Total # of Leaks Detected from O&M* [N _{LO}]
Total Meters - AG Haz	6,213,246	3,581,735	2,631,511	5	526,302	1,807	0.00029	1,530.65	781
Total Meters - AG Non-Haz and Minor	6,213,246	3,581,735	2,631,511	5	526,302	35,159	0.00566	29,781.96	15,394
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**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 2025 June Report
Appendix 6; Rev. 03/27/2025**

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.

Include items like the following in this tab (Note whether emissions are included in the MSA EF used to estimate emissions for the MSA population and show only the event count):

- Gas vented during all Regulator Change outs due to other than vent leakage.
- Large Customer MSA Regulator Inspection - External Regulator Inspections. List avg. amount vented.
- Large Customer MSA Regulator Inspection - Regulator change out & Internal Reg Inspection. List avg. amount vented.
- Diaphragm - CSF Read & Verify - List amount vented thru meter during read & verify order for decreased usage.
- Diaphragm - CSF Clock Test - List amount vented during Clock Test
- Diaphragm - CSF Registration Check - List amount ventedn during Registration Checks
- Diaphragm Size 1,2,3 Meter Change Out - List avg. gas vented on Size 1 Meter Change Out
- All Meter Change Out Size 4 thru 28 - List avg. gas vented for Size 5 to 10 Meter Change outs
- Field Meter Test of Diaphragm & Rotary - List avg. gas vented for Size 9 Meters
- Customer Orifice Meter Plate Insp. - Orifice Plate Inspected Monthly. List avg. amount vented

Response:

Customer Meter Blowdowns:

Number of Blowdowns	Meter Type	Emission Factor (Mscf/yr)	Annual Emissions (Mscf)	Explanatory Notes / Comments
1	CI	NA	19.72	Blowdown at producer site (BD-2024-1325)
7,098	CI	0.005	35.49	All Meter Change Out Size 4 thru 28 - Use avg. gas vented of 5 scf for Size 5 to 10 Meter Change outs
26,130	CI/R	0.001	26.13	Customer Service Regulator - Gas vented during all Regulator Change-outs. Estimated avg. gas vented = 1 scf/change-out.
233,745	CI/R	0.001	146.09	Diaphragm - CSF Registration Check - Vent 0.625 scf/inspection during Clock Test, Drop Test or Low flow Test
49,482	CI/R	0.020	989.64	Diaphragm - Read & Verify Order Conducted at 50% of Field Mtr Tests - Estimated avg. gas vented = 20 scf/ea.
138,034	CI/R	0.001	86.27	Diaphragm - Registration Check - Estimated avg. gas vented = 0.625 scf/ea.
40,231	CI/R	0.001	40.23	Diaphragm Size 1,2,3 Meter Change Out - Use avg. gas vented of 1 scf on Size 1 Meter Change Out
564	CI	0.005	2.82	Field Meter Test of Diaphragm & Rotary - Use avg. gas vented of 5 scf for Size 9 Meters
569	CI	0.030	17.07	Filter Changeout or Filter Inspection w/parts replacement - Estimated avg. gas vented = 30 scf/ea.
16,559	CI	0.002	33.12	Large Customer MSA Regulator Inspection - External Regulator Inspections @ 2 scf/insp.
5,805	CI	0.006	34.83	Large Customer MSA Regulator Inspection - Regulator change out & Internal Reg Inspection @ 6 scf/insp.
162	CI	0.018	2.92	Monthly Plate Inspections at Customer Orifice Meters - Estimated avg. gas vented = 18 scf/insp (Avg. Size = 20" @ 300 psig with top chamber volume 0.839 cf)
1,927	CI	0.020	38.54	Relief Valve Inspection at Customer MSAs - Estimated avg. gas vented = 20 scf/insp. (annual test with Nitrogen, gas vented is volume of gas in valve)
508	CI	0.005	2.54	Customer MSA M&R-Maintained Removals (Estimated gas vented 5 scf/ea.)
4,963	CI/R	0.001	4.96	Customer MSA Size 1-2 Standard Pressure Removals. Estimated avg vent 1 scf/ea.
551	CI/R	0.003	1.65	Customer MSA Size 3-4 Standard Pressure Removals. Estimated avg vent 3 scf/ea
204	CI	0.030	6.12	Producer Filter Changeout or Filter Inspection w/parts replacement - Estimated avg. gas vented = 30 scf/ea.
9	CI	0.833	7.50	Producer Pipeline Drip Accumulation - Estimated avg. gas vented = 10,000 cfh for 5min/device
152	CI	0.020	3.04	Producer Relief Valve Inspection at Customer MSAs - Estimated avg. gas vented = 20 scf/insp.
177	CI	0.002	0.35	Producer Pneumatic Device Annual Inspection - Estimated avg. gas vented = 2 scf/insp. (Actuators & Controllers)
8	CI	0.025	0.20	Producer - Meters - 25 scf/inspection
33	CI	0.002	0.07	Producer - Gas chromatographs/analyzers - 2 scf/inspection
24	CI	0.833	20.00	Pipeline Drip Accumulation - Estimated avg. gas vented = 10,000 cfh for 5min/device
437	CI	0.030	13.11	Transmission maintained - Filter Changeout or Filter Inspection w/parts replacement - Estimated avg. gas vented = 30 scf/ea.
107	CI	0.020	2.14	Transmission maintained - Relief Valve Inspection at Customer MSAs - Estimated avg. gas vented = 20 scf/insp. (annual test with Nitrogen, gas vented is volume of gas in valve)
125	CI	0.002	0.25	Transmission maintained - Pneumatic Device Annual Inspection - Estimated avg. gas vented = 2 scf/insp. (Actuators & Controllers)
48	CI	0.002	0.10	Transmission maintained gas chromatographs/analyzers - 2 scf/inspection
140	CI	0.025	3.50	Transmission maintained meters - 25 scf/inspection
1	CI	0.002	0.00	Transmission maintained line breaks - Estimated avg. gas vented = 2 scf/insp
Sum Total			1,538	

SoCalGas, June 13th, 2025

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 2025 June Report

Appendix 6; Rev. 03/27/2025

Notes:

This worksheet is intended to capture the actual number of equipment and components in this asset category that vent emissions as a part of their design and normal function. By listing the number and types of components (not captured elsewhere in other templates) that vent emissions we hope to obtain information that may provide insight into how to evolve to a method of reporting emissions based on the actual number of units and types emitting rather than a crude population based estimate.

Currently, the component related leaks are accounted for in the population based estimate for MSAs and any estimate of emissions associated with this list of equipment and components will not be added to that total. This tab is not intended to replace or supplant the Vented and Blowdown Emissions tab which are activity based emissions.

No emissions estimates from this worksheet should be included in Appendix 8, as this is being collected for informational purposes at this time.

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:

Customer Meter Component/Equipment Vented Emissions (Informational Purposes Only):

ID (Number of Devices)	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
61		P			366	0.0576	1,286	Controllers Transmission
64		P			366	0.0576	1,349	Positioners Transmission
Sum Total							2,635	

Appendix 6; Rev. 03/27/2025

Header column "Comment" boxes displayed below for reference.	
In Response to Data Request, Description and Definition of Required Contents (If not self-explanatory)	
Meter Leaks, Population Based	
Number of Meters	
Meter Type	CI = commercial or industrial meter R = residential meter
Emission Factor (Mscf/yr)	
Annual Emissions (Mscf)	
Identified MSA Leaks, Leaker	
ID	
Geographic Location	GIS, zip code, or equivalent
Meter Classification (Commercial/Industrial or Residential)	If available, indicate whether the meter is commercial or industrial "CI", or a residential "R" meter. If that information is not available then note as "N/A". CI = Commercial or Industrial R = Residential N/A = not available
Leak Classification (Grade)	AH = Above Ground Hazardous AN = Above Ground Non-hazardous AM = Above Ground Non-hazardous Minor If Above Ground, and operator uses the Bubble grading methodology with an alphanumeric grade, then provide an explanation for the meaning each grade in the notes above the table. For example: A = grade A - Large Leak or equates to with AH above with an approximate EF of 10.2035 scfh. B = grade B - Equates to AN above with an approximate EF of 0.5138 scfh. Etc. If the MSA leak is Below ground and not included in DM&S , then use the following grades: 1 = grade 1 2 = grade 2 3 = grade 3 N = Non-Graded
Leak Discovery Method	S = Routine Leak Survey M = O&M (e.g. O&M activities, third party reports, customer odor reports, etc.)
Discovery Date (DD/MM/YY)	
Leak Repair Date (MM/DD/YY)	Use the date the leak ceases emitting NG. The final repair may be completed after the leak has been stopped.
If not repaired by 12/31/xx List the Scheduled Date of Repair (DD/MM/YY)	If leak is open, specify the scheduled date of repair Otherwise type "M," signifying that the leak is being monitored with no scheduled date of repair Then, provide the reason for not scheduling a repair in Comments column.
Reason for Not Scheduling a Repair	If repair hasn't been scheduled, then provide the reason for not scheduling a repair in this column. If using a reason code, then provide a table with codes and corresponding explanations.
Number of Days Leaking	Leak Duration (in days) = End Date + 1 day - Start date End Date: The repair date or December 31st of subject year, whichever is earlier. Start Date: If discovered by survey use January 1st or prior survey date whichever is more recent, or if an O&M or customer called in leak, then use discovery date for start of the leak. (Leaks carried over should use January 1st as start date for emissions calculations.) For O&M discovered leaks, assume that the leak begins with the discovery date <u>the</u> repair date or December 31st of subject year, whichever is earlier.
Number of Days to Repair.	Leak Discovery date minus repair date or 12/31 of the subject year plus 1 = number of days to repair for the subject year. Addition of 1 day to include the date repaired.
Comments or Additional Information	
Meter Leaks, Leak Count, Leaker	
Meter Classification (AG-Haz, AG-Non-Haz); Bubble Size Category	Utilities should add rows according to their bubble size categories and nomenclature, and should include a no-bubble category. For example, include a row for each: Foam/ Indeterminate; Bubbles; Soap Blown Off; and No Bubbles.
Total System Meters per survey Cycle	
Meters on Annual Survey [M _{yr}]	
Meters on Multi-Year Survey Cycles [M _{yr} ^{tot}]	
Survey Interval (yrs) [I]	
Meters Surveyed Annually from Multi-Year Survey Cycles [M _{yr}]	

In Response to Data Request, Description and Definition of Required Contents (If not self-explanatory)	
Total # of Leaks Detected from Survey [N _{XL}]	
Annual Leak Rate [Leaks / Meter]	$R_x = \frac{N_{XL}}{M_{XA} + (I \times M_{XL})}$
# of Unknown Leaks	$N_{X,unk} = R_x \times (M_{X,tot} - M_{XL}) \times \frac{I}{2}$ If the operator changed the leak survey cycle during the report year that requires more detailed calculations based on the approved calculation methodology to determine the number of unknown leaks an additional worksheet may be added to show the calculations.
Total # of Leaks Detected from O&M* [N _{X,OT}]	
All Damages	
ID	
Geographic Location	GIS, zip code, or equivalent
Damage Type	E = Excavation Damage N = natural force damage O = other outside force damage
Meter Type	CI = commercial or industrial meter R = residential meter
Leak Classification (Grade)	AH = Above Ground Hazardous AN = Above Ground Non-hazardous AM = Above Ground Non-hazardous Minor
Discovery Date (DD/MM/YY)	
Leak Repair Date (MM/DD/YY)	Use the date the leak ceases emitting NG. The final repair may be completed after the leak has been stopped.
If not repaired by 12/31/xx List the Scheduled Date of Repair (DD/MM/YY)	If leak is open, specify the scheduled date of repair. Otherwise type "M," signifying that the leak is being monitored with no scheduled date of repair. Then, provide the reason for not scheduling a repair in the Column provided.
Reason for Not Scheduling a Repair	Provide the reason for not scheduling a repair.
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.
Engineering Estimate (Mscf/Day)	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	
Vented and Blowdown Emissions	
Number of Blowdowns	For metering set assembly (MSA)
Meter Type	CI = commercial or industrial meter R = residential meter
Emission Factor (Mscf/event)	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	
Component Vented Emissions	
ID	
Geographic Location	GIS, zip code, or equivalent
Device Type	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	
Number of Days 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	