ROCKPOINT
GAS STORAGE

Wild Goose Storage, LLC
A Rockpoint Gas Storage Company
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June 15, 2020

Mr. Ed Charkowicz
Safety and Enforcement Division
California Public Utilities Commission
2nd Floor
505 Van Ness Ave.
San Francisco, CA 94102
Ed.charkowicz@cpuc.ca.gov

VIA ELECTRONIC MAIL

RE: Wild Goose Storage, LLC
R15-01-008 2020 Annual Report

Dear Mr. Charkowicz:

Wild Goose Storage, LLC (WGS) respectfully submits this 2020 Annual Report to the California Public Utilities Commission (CPUC) pursuant to R15-01-008. The attached 2020 Annual Report is comprised of this cover letter and the following documents:

- Attachment 3 – Natural Gas Leakage Abatement Report
- Appendix 1 – Transmission Pipelines
- Appendix 7 – Underground Storage
- Appendix 8 – Summary Tables

If you have any questions, or require more information, please contact me at **greg.clark@rockpointgs.com** or at (209) 368-9277 x21.

Sincerely,

Gregory N. Clark
Compliance Manager

Enclosures (Attachment 3, Appendix 1, Appendix 7, Appendix 8)

cc: T. Ferreira (terrel.ferreira@arb.ca.gov)
P. Baynard, J. Dubchak, M. Fournier, G. Theberge (via e-mail)

Attachment 3

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.

Annual Report

Wild Goose Storage, LLC

Natural Gas Leakage Abatement Report

In partial fulfillment of

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
Wild Goose Storage, LLC - R15-01-008
2020 Annual Report

By:

Date: 6/15/20

Introduction

The following data[1] have been prepared to comply with Senate Bill 1371 (Leno, 2014), Section 2, Article 3, Order Instituting Rulemaking (OIR) 15-01-008, and to provide our responses to Data Requests Wild Goose Storage, LLC - R15-01-008 2020 Annual Report.

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):

(1) A summary of changes to utility leak and emission management practices from January 1st, 2019 to December 31st, 2019. The report must include a detailed summary of changes, including the reasoning behind each change and an explanation of how each change will reduce methane leaks and emissions.

Response:

Various work was performed by Wild Goose Storage, LLC (WGS) during the 2019 Calendar Year, with the intent of minimizing methane emissions to the environment. WGS continued implementing best practices that were already in place and made efforts to further enhance this initiative.

Implementation of SB 1371 Best Practices is fully described in the 2020 Methane Leak Abatement Compliance Plan, submitted to CPUC in

[1] As described in Data Request Wild Goose Storage, LLC R15-01-008 2020 Annual Report

March 2020. The SB 1371 Best Practice's that impacted methane emissions reduction during 2018 and 2019 are as follows:

- BP #1 - Compliance Plan – General impact on reduction. Operations group greater awareness of importance to minimize methane release to atmosphere.
- BP #2 - Methane Potent GHG Policy – General impact on reduction. Operations group greater awareness of importance to minimize methane release to atmosphere.
- BP #3 - Pressure Reduction Policy or Procedure – Operations have attempted to reduce pressure as much as possible before blowing down piping/equipment.
- BP #4 - Scheduling Projects Policy or Procedure – Operations have minimized gas release by running equipment longer before requiring blowdown.
- BP #5 - Methane Evacuation Implementation Procedures – Operations are more consistent with methane evacuation process, having procedures in place.
- BP #7 - Bundling Work Policy – More effort being made to bundle work activities, delaying blowdown, and reducing overall methane volume released.
- BP #9 – Recordkeeping – More detailed record keeping by Operations has resulted in greater accuracy for CARB annual reporting and fewer assumptions (related to Cap & Trade program and 3rd party verification findings).
- BP #11 - Methane Emissions Reductions Policies Training – General impact on reduction. Operations group greater awareness of importance to minimize methane release to atmosphere.
- BP #12 - Knowledge Continuity Training Programs – New staff became directly involved with blowdown of piping/equipment, and LDAR during 2019.
- BP #23 - Minimize Fugitive & Vented Methane Emissions – Greater overall effort by Operations to proactively inspect equipment for leaks and minimize the amount of volume blown down.

(2) A list of new graded and ungraded gas leaks discovered, tracked by geographic location in a Geographic Information System (GIS) or best equivalent, by grade, component or equipment, pipe size, schedule and material, pressure, age, date discovered and annual volume of gas leaked for each, by month, from January 1st, 2019 through December 31st, 2019.

Response:

See Appendices

(3) A list of graded and ungraded gas leaks repaired, tracked by geographic location in a Geographic Information System (GIS) or best equivalent, by month, from January 1st, 2019 through December 31st, 2019. Include the grade, component or equipment, pipe size, schedule and material, pressure, age, date discovered, date of repair, annual volume of gas leaked for each and the number of days from the time the leak was discovered until the date of repair.

Response:

See Appendices

(4) A list of ALL open graded and ungraded leaks, regardless of when they were found, tracked by geographic location in a Geographic Information System (GIS) or best equivalent that are being monitored, or are scheduled to be repaired, by month, from January 1st, 2019 through December 31st, 2019. Include the grade, component or equipment, pipe size, schedule and material, pressure, age, date discovered, scheduled date of repair, and annual volume of gas leaked for each.

Response:

See Appendices

(5) System-wide gas leak and emission rate data, along with any data and computer models used in making that calculation, for the 12 months ending December 31st, of the reporting year.

Response:

See Appendices

(6) Calculable or estimated emissions and non-graded gas leaks, as defined in Data Request Wild Goose Storage, LLC R15-01-008 2020 Annual Report for the 12 months ending December 31st, 2019.

Response:

See Appendices

(END OF ATTACHMENT 3)

Wild Goose Storage, LLC, Report Submitted: June 15, 2020

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 - 2020 June Report

Appendix 1 - Rev. 03/31/20

Notes:
Emissions included in the Report are based on miles of transmission pipeline. Therefore provide the miles of transmission pipeline in your system here.
The following data on transmission pipeline leaks is **for information purposes** and will not be used to report transmission pipeline leak emissions this 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.

Transmission Pipeline Leaks:

ID	Geographic Location	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)	Scheduled Repair Date (MM/DD/YY)	Reason for Not Scheduling a Repair	Number of Days Leaking	Emission Factor (Mscf/Day)	Annual Emissions (Mscf)	Explanatory Notes / Comments

There were no transmission pipeline leaks during the period January 1 - December 31, 2019.

Sum total	0

Wild Goose Storage, LLC, Report Submitted: June 15, 2020

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 - 2020 June Report

Appendix 1 - Rev. 03/31/20

Notes:

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

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Transmission Pipeline 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

The transmission pipeline did not incur any form of damage during the period January 1 - December 31, 2019.

Sum total 0

Wild Goose Storage, LLC, Report Submitted: June 15, 2020

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In Response to Data Request, R15-01-008 - 2020 June Report

Appendix 1 - Rev. 03/31/20

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 Pipeline Blowdowns:

ID	Geographic Location	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments

There were no transmission pipeline blowdowns during the period January 1 - December 31, 2019.

Sum total	0

Wild Goose Storage, LLC, Report Submitted: June 15, 2020

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In Response to Data Request, R15-01-008 2020 June Report
Appendix 1 - Rev. 03/31/20

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 component. Any intential release of natural gas for safety or maintenance purposes should be included in the Blowdowns worksheet.

Transmission Pipeline Component Vented Emissions:

Total Number of Devices	Device Type	Bleed Rate	Manufacturer	Emission Factor (Mscf/day)	Annual Emission (Mscf)	Explanatory Notes / Comments

There were no transmission pipeline component vented emissions during the period January 1 - December 31, 2019.

Sum total	0

Wild Goose Storage, LLC, Report Submitted: June 15, 2020

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In Response to Data Request, R15-01-008 2020 June Report

Appendix 1 - Rev. 03/31/20

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
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.

Transmission Pipeline Component Fugitive Leaks:

ID	Geographic Location	Device Type	Bleed Rate	Manufacturer	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor (Mscf/day)	Annual Emission (Mscf)	Explanatory Notes / Comments

There were no transmission pipeline component fugitive leaks during the period January 1 - December 31, 2019.

Sum total	0

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Appendix 1 - Rev. 03/31/20

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

Transmission Pipeline Odorizers:

ID	Geographic Location	Number of Units	Emission Factor (Mscf/yr)	Annual Emission (Mscf)	Explanatory Notes / Comments

There were no transmission pipeline odorizer emissions during the period January 1 - December 31, 2019.
Note that the odorizer injection system is operated /managed by PG&E within their meter station.

Sum total	0

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In Response to Data Request, R15-01-008 2020 June Report
Appendix 7; Rev. 05/28/20

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.

Underground Storage Facility Leaks and Emissions:

ID	Geographic Location	Source	Number of Sources	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor (Mscf/day/dev)	Annual Emissions (Mscf)	Explanatory Notes / Comments
Well 31H	95953	W/C	1	9/9/2019	9/9/2019	1	0.0288	0.0288	Identified during CARB Oil & Gas Rule daily Wellpad checks
Well 24H	95953	W/C	1	9/11/2019	9/12/2019	2	0.0288	0.0576	Identified during CARB Oil & Gas Rule daily Wellpad checks
						Sum total		0.0864	

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Appendix 7; Rev. 05/28/20

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 workshe

2020 Reporting Changes:
1) New Column for Measurement Frequency - See box comments. If you have any questions contact Ed Charkowicz at 415-703-2421 or via email.
2) Added new column for Emission Factor: Measurement Date - Pressurized Operations
3) Added a fourth compressor operating mode "Offline". In addition, a measurement of emissions (EF) should be taken during Offline mode, to ensure that no emissions are eminating from the syster
4) Alternate emissions measurement method, where applicable and measured by the operator:
5) Alternate emissions measurement method, where applicable and measured by the operator:
- Blowdown and Isolation valves
6) Measure centrifugal compressor emissions additional columns added for these emissions
- Dry seals
- Wet seals
- Wet seal oil degassing vents in Pressurized Idle mode

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 2019 are outlined in the adjacent cell, and should be provided if available.

Advance notice for 2021 reporting, CPUC Staff will propose quarterly reporting at the winter workshop. Therefore, gas companies are requested to start measuring compressor emissions on at least a quarterly basis for the remainder of 2020, if not doing so already. This will ensure gas companies are prepared to report these emissions in accordingly in 2021.

The Columns P thru AB were added to the template and should be used for the indicated measured compressor emissions, which include Centrifugal compressors in accordance with OGR and your operating practice.

For the 2019 data reporting of compressor vented emissions:
Where more than one measurement was taken during the year (e.g. after a maintenance cycle*, monthly, or quarterly), use the measured EF multiplied by the activity hours that occurred during the corresponding period. For example, if the compressor measurement was taken quarterly, then the measured EF should be multiplied by the activity hours that occurred in the respective quarter, and the same for more frequent measurments (e.g. monthly, weekly etc.). For each compressor devote one row per measurement period (see example provided). In the case of a single annual measurement EF, then that EF would apply to the activity hours for each respective mode for the entire year (which is consistent with prior year reporting practice).

*** If a measurement is taken after a maintenance cycle and no other measurements were taken during the remainder of the year, then use this measured EF for the activity hours occurring after the measurement date thru 12/31/xx. The activity hours prior to the maintenance of the compressor from the beginning of the year should use the previously measured EF, even if the EF was measured in the prior year.**

Transmission Compressor Vented Emissions:

ID	Geographic Location	Compressor Type	Prime Mover	Number of Cylinders	Number of Seals	Seal Type	Measurement Frequency	Emission Factor: Measurement Date - Pressurized Operations	Operating Mode: Pressurized Operating (hours)	Operating Mode: Pressurized Idle (hours)	Operating Mode: Depressurized Idle (hours)	Operating Mode: Offline (Hours)	Emission Factor: Pressurized Operating(scf/hr)	Emission Factor: Pressurized Idle (scf/hr)	Emission Factor: Depressurized Idle (scf/hr)	Emission Factor: Offline (scf/hr)	Emission Factor: Pressurized Operating - Rod Packing (scf/hr)	Emission Factor: Pressurized Operating - Blowdown Valve (scf/hr)	Emission Factor: Pressurized Operating - Wet Seal Oil Degassing Vent (scf/hr)	Emission Factor: Pressurized Operating - Wet Seal (scf/hr)	Emission Factor: Pressurized Operating - Dry Seal (scf/hr)	Emission Factor: Pressurized Idle - Rod Packing (scf/hr)	Emission Factor: Pressurized Idle - Blowdown Valve (scf/hr)	Emission Factor: Pressurized Idle - Wet Seal Oil Degassing Vent (scf/hr)	Emission Factor: Pressurized Idle - Wet Seal (scf/hr)	Emission Factor: Pressurized Idle - Dry Seal (scf/hr)	Emission Factor: Pressurized Idle - Isolation Valve (scf/hr)	Annual Emissions (Mscf)	Explanatory Notes / Comments
									Hypothetical values used to provide an example.																				
Plant #1 C101A	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	1267.0	0.0	7493.0	N/A	404.4	N/A	0.0	N/A	404.4	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**512.37**	rod packing, BD valve, iso valve
Plant #1 C101B	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	1396.2	0.0	7363.8	N/A	324.0	N/A	0.0	N/A	324.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**452.37**	rod packing, BD valve, iso valve
Plant #2 C101A-2	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	3251.2	0.0	5508.8	N/A	54.6	N/A	0.0	N/A	54.6	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**177.52**	rod packing, BD valve, iso valve
Plant #2 C101B-2	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	2506.9	0.0	6253.1	N/A	96.6	N/A	0.0	N/A	96.6	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**242.17**	rod packing, BD valve, iso valve
Plant #3 C101A-3	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	4825.3	0.0	3934.7	N/A	346.2	N/A	0.0	N/A	346.2	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1670.52**	rod packing, BD valve, iso valve
Plant #3 C101B-3	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	4031.0	0.0	4729.0	N/A	321.6	N/A	0.0	N/A	321.6	0.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1296.37**	rod packing, BD valve, iso valve
Plant #4 C101A-4	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	4196.6	3833.8	729.6	N/A	315.6	0.0	0.0	N/A	315.6	0.0	N/A	N/A	N/A	0.0	0.0	N/A	N/A	N/A	0.0	**1324.45**	rod packing, BD valve, iso valve
Plant #4 C101B-4	95948	R	C	6	Not applicable	Not applicable	A	9/19/2019	3985.7	3970.3	804.0	N/A	114.6	0.0	0.0	N/A	114.6	0.0	N/A	N/A	N/A	0.0	0.0	N/A	N/A	N/A	0.0	**456.76**	
																										Sum total		**6,132.52**	

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In Response to Data Request, R15-01-008 2020 June Report

Appendix 7; Rev. 05/28/20

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

Underground Storage Blowdowns:

ID	Geographic Location	Source	Compressor Type	Number of Blowdown Events	Annual Emissions (Mscf)	Explanatory Notes / Comments
Compressor Station	95948	C	R	285	12,444.37	Compressor unit blowdowns when changing the mode of operation
Compressor Station	95948	P	Not applicable	2	163.53	Piping within the compressor station that's blown down to accommodate a mode change
				Sum total	**12,607.90**	

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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.

Underground Storage Component Vented Emissions (See note above):

ID	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)	Annual Emissions (Mscf)	Explanatory Notes / Comments
Delevan MS	95979	P	I	Becker	100	Not applicable	365	0.0576	126	6 components at same emission factor

All other instrument devices (at the wellpad and compressor station) run on instrument air.

Sum total	**126**

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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.

Underground Storage: Compressor and Component Fugitive Leaks (see note above):

12/31/2019 1/1/2019

ID	Geographic Location	Device Type	Bleed Rate	Manufacturer	Pressure (psi)	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Prior Survey Date (MM/DD/YY)	Number of Days Leaking	Emission Factor or Engineering Estimate (Mscf/day)	Emissions (Mscf)	Explanatory Notes / Comments
1st Quarter Leak Survey												
Plant	95948	C	NA	Not applicable	1200	3/19/2019	3/22/2019	11/30/2018	59	0.1342	16	2 connectors
Plant	95948	V	NA	Grove / Aerial	1200	3/18/2019	3/20/2019	11/30/2018	57	0.3562	244	12 valves
Plant	95948	V	NA	Grove / Aerial	1200	3/19/2019	7/24/2019	11/30/2018	183	0.3562	65	1 valve - CARB Delay of Repair
Delevan	95979	V	NA	Not applicable	1000	3/18/2019	3/19/2019	11/30/2018	56	0.3562	20	1 valve
Wellpad	95953	V	NA	Grove	1250	3/18/2019	3/21/2019	11/30/2018	58	0.3562	21	1 valves
											365	
2nd Quarter Leak Survey												
Plant	95948	C	NA	Not applicable	1600	6/13/2019	6/14/2019	3/18/2019	46	0.1342	6	1 connector
Plant	95948	V	NA	Grove / Aerial	1600	6/12/2019	6/14/2019	3/18/2019	46	0.3562	147	9 valves
Wellpad	95953	V	NA	Grove	1400	6/11/2019	6/17/2019	3/18/2019	50	0.3562	53	3 valves
											206	
3rd Quarter Leak Survey												
Plant	95948	V	NA	Grove / Aerial	1500	9/18/2019	9/25/2019	6/11/2019	58	0.3562	225	11 valves
											225	
4th Quarter Leak Survey												
Plant	95948	C	NA	Not applicable	1350	12/13/2019	12/17/2019	9/18/2019	48	0.1342	6	1 connector
Plant	95948	V	NA	Grove / Aerial	1350	12/11/2019	12/12/2019	9/18/2019	44	0.3562	78	5 valves
Plant	95948	V	NA	Grove / Aerial	1350	12/11/2019	12/31/2019	9/18/2019	63	0.3562	22	1 valve - CARB Delay of Repair
											107	
										TOTAL EMISSIONS	904	

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In Response to Data Request, R15-01-008 2020 June Report
Appendix 7; Rev. 05/28/20

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, R15-01-008 2018 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 R15-01-008 2018 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.
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Underground Storage Dehydrator Vented Emissions:

ID	Geographic Location	Type of Dehydrator (Glycol or Desiccant)	Vapor Recovery Unit or Thermal Oxidizer (Y/N)	Annual Volume of Gas Withdrawn (Mscf)	Emission Factor (Y/N)	Engineering Estimate (Y/N)	Annual Emissions (Mscf)	Explanatory Notes / Comments
Plant #1 & #2	95948	Glycol	Y	23,210,000	N/A	N/A	0.0	Total volume of gas withdrawn from WGS in 2019 was 46,420,000 Mscf
Plant #3	95948	Glycol	Y	11,605,000	N/A	N/A	0.0	Total volume of gas withdrawn from WGS in 2019 was 46,420,000 Mscf
Plant #4	95948	Glycol	Y	11,605,000	N/A	N/A	0.0	Total volume of gas withdrawn from WGS in 2019 was 46,420,000 Mscf
						Sum total	-	

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Summary Tables:

System Categories	Emission Source Categories	Fugitive or Vented	For Reference Only: 2015 Baseline Emissions (Mscf)	2018 Total Annual Volume of Leaks & Emissions (Mscf)	2018 Total Annual Count of Leak & Emission Items	2019 Total Annual Volume of Leaks & Emissions (Mscf)	2019 Total Annual Count of Leak & Emission Items	Emission Change for Year Over Year Comparison from 2018 to 2019 (Mscf)	Percentage Change for Year Over Year Comparison from 2018 to 2019	Count Change for Year Over Year Comparison from 2018 to 2019	Percentage Change for Year Over Year Comparison from 2018 to 2019	Emission Change for Year Over Year Comparison from 2015 to 2019 (Mscf)	Percentage Change for Year Over Year Comparison from 2015 to 2019	Explanation for Significant Percentage Change for Year Over Year Comparison from 2018 to 2019
Transmission Pipelines	Pipeline Leaks	Fugitive						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
	All Damages	Fugitive						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
	Blowdowns	Vented						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
	Component Emissions	Vented						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
	Component Leaks	Fugitive						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
	Odorizers	Vented						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
Transmission M&R Stations	Station Leaks & Emissions	Fugitive						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
	Blowdowns	Vented						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
Transmission Compressor Stations	Compressor Emissions	Vented						-	#DIV/0!	-	#DIV/0!	0	#DIV/0!	
	Compressor Leaks	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Blowdowns	Vented						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Component Emissions	Vented						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Component Leaks	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Storage Tank Leaks & Emissions	Vented						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
Distribution Main & Service Pipelines	Pipeline Leaks	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	All Damages	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Blowdowns	Vented						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Component Emissions	Vented						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Component Leaks	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
Distribution M&R Stations	Station Leaks & Emissions	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	All Damages	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Blowdowns	Vented						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
Customer Meters	Meter Leaks	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	All Damages	Fugitive						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
	Vented Emissions	Vented						-	#DIV/0!	-	#DIV/0!	-	#DIV/0!	
Underground Storage	Storage Leaks & Emissions	Fugitive	0	95	1	0.09	2	(95)	(99.9%)	1	100.0%	0.09	#DIV/0!	
	Compressor Emissions	Vented	5847	5869	8	6133	8	264	4.5%	-	0.0%	285.52	4.9%	
	Compressor Leaks	Fugitive		817	53			(817)	(100.0%)	(53)	(100.0%)	-	#DIV/0!	Compressor leaks are captured under component leaks
	Blowdowns	Vented	15491	11139	261	12608	287	1,469	13.2%	26	10.0%	(2,883.10)	(18.6%)	
	Component Emissions	Vented	126	126	6	126	6	-	0.0%	-	0.0%	-	0.0%	
	Component Leaks	Fugitive	2539	3202	157	904	48	(2,298)	(71.8%)	(109)	(69.4%)	(1,635.03)	(64.4%)	
	Dehydrator Vent Emissions	Fugitive	0	0	4	0	4	-	#DIV/0!	-	0.0%	-	#DIV/0!	
Unusual Large Leaks	(Description)							-				-	#DIV/0!	
		Total	**24003**	**21248**	NA	**19770**	NA	(1,478)	-7%	NA	NA	**(4,232.52)**	**(17.6%)**	

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System Wide Leak Rate Data

1/1/2019 - 12/31/2019

The highlighted cells show the volumes that are summed together as the throughput for calculating the system wide leak rate.

Gas Storage Facilities:

Average Close of the Month Cushion Gas Storage Inventory (Mscf)	Average Close of the Month Working Gas Storage Inventory (Mscf)	Total Annual Volume of Injections into Storage (Mscf)	Total Annual Volume of Gas Used by the Gas Department (Mscf)	Total Annual Volume of Withdrawals from Storage (Mscf)	Explanatory Notes / Comments
11,000,000	75,000,000	55,250,000	631,636	46,420,000	

Transmission System:

Total Annual Volume of Gas Used by the Gas Department (Mscf)	Total Annual Volume of Gas Transported to or for Customers* in State (Mscf)	Total Annual Volume of Gas Transported to or for Customers* out of State (Mscf)	Total Annual Volume of Gas Transported to utility-owned or third-party storage fields for injection into storage (Mscf)	Explanatory Notes / Comments

Distribution System:

Total Annual Volume of Gas Used by the Gas Department (Mscf)	Total Annual Volume of Gas Transported to or for Customers* in State (Mscf)	Total Annual Volume of Gas Transported to or for Customers* out of State (Mscf)	Explanatory Notes / Comments

*The term customers includes anyone that the utility is transporting gas for, including customers who purchase gas from the utility.
Customers can be anyone including residential, businesses, other utilities, gas transportation companies, etc.

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Summary Tables:

Natural Gas Properties	Average Mole Percent	Explanatory Notes / Comments
		Gas is supplied from PG&E's transmission system via meter station / interconnect. Gas is returned to PG&E's system when Wild Goose is on withdrawal, meeting required natural gas quality / specification for their transmission line.
Methane		
Carbon Dioxide		
Ethane		
C3+		
C6+		
Oxygen		
Hydrogen		
Sulfur		
Water		
Carbon Monoxide		
Particulate Matter		
Inert Gas		
Odorant		