BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Adopt Rules and Procedures Governing Commission-Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas Leakage Consistent with Senate Bill 1371.	R.15-01-008 (Filed January 15, 2015)

COMMENTS OF SOUTHERN CALIFORNIA GAS COMPANY (U 904 G) AND SAN DIEGO GAS & ELECTRIC COMPANY (U 902 G) ON THE ADMINISTRATIVE LAW JUDGE'S RULING ENTERING CALIFORNIA AIR RESOURCES BOARD AND CALIFORNIA PUBLIC UTILITIES COMMISSION JOINT STAFF ANNUAL REPORT ON ANALYSIS OF JUNE 17, 2016 UTILITIES' REPORTS AND COMMISSION STAFF PROPOSAL ON BEST PRACTICES INTO THE RECORD AND SEEKING COMMENTS

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Pursuant to the Administrative Law Judge's Ruling Entering California Air Resources Board and California Public Utilities Commission Joint Staff Annual Report on Analysis of June 17, 2016 Utilities' Reports and Commission Staff Proposal on Best Practices into the Record and Seeking Comments dated January 19, 2017 (ALJ Ruling), Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company (SDG&E) submit their Comments on the ALJ Ruling.

I. INTRODUCTION

SoCalGas and SDG&E appreciate the California Public Utilities Commission (CPUC or Commission) Safety and Enforcement Division's (SED) and the California Air Resources Board (ARB) Staff's (collectively referred to as "Joint Staff") development of the Analysis of the Utilities' June 17, 2016 Methane Leak and Emissions Reports Required by SB 1371 (Joint Staff Annual Report) and the Natural Gas Leakage Abatement Summary of Best Practices Working Group Activities and Revised Staff Recommendations (Revised Best Practices). While SoCalGas and SDG&E agree that the proposed template modifications attached as Appendix E of Attachment 1 to the Joint Staff Annual Report appear to be reasonable, SoCalGas and

SDG&E suggest additional clarifications herein. We commend SED and ARB for their work and will continue to collaborate with them to refine the templates for the report.

SoCalGas and SDG&E also appreciate SED for its foresight in conducting two technical workshops in December 2016 to further clarify and refine the proposed Best Practices (BPs). The workshops were critical in allowing workshop participants to "walk through" the requirements to identify areas of ambiguity, and where there was potential for infeasible compliance or effort without any corresponding emissions benefit. In particular, adding flexibility to language for some BPs that enable utilities to evaluate the need to implement a BP prior to its blanket implementation is critical. We recommend some additional areas where flexibility and clarity may be needed in the BPs. In addition, SoCalGas and SDG&E recommend establishing dates when the Compliance Plan templates will be finalized before the utilities are required to file in March 2018, when the utilities can expect to receive individual approval of their Compliance Plan, and when the utilities can expect the evaluation of the outcome of future annual reports.

II. SOCALGAS' AND SDG&E'S RESPONSE TO THE ALJ RULING'S QUESTIONS

1. Does the January 2017 Joint Staff Annual Report clearly illustrate the trends of findings based on ARB/Commission staff's analysis of the June 17, 2016, reports? (Attachment 1)

SoCalGas and SDG&E agree that the Joint Staff Annual Report illustrates the trends of findings based on ARB/Commission staff's analysis of the June 17, 2016 reports. Additionally, SoCalGas and SDG&E appreciate that Joint Staff acknowledged the differences in the reporting templates between 2015 and 2014 and did not develop conclusions based on the two years. SoCalGas and SDG&E appreciate Joint Staff's comments regarding the differences between SB 1371 and the traditional approach used by the Pipeline and Hazardous Materials Safety Administration (PHMSA) to define a "Leak" and to calculate "Unaccounted For" (UAF) volumes in the Joint Staff Annual Report. This clarification helps explain the significant differences in scope involved with this rulemaking in comparison to other reported data. SoCalGas and SDG&E are committed to continue working with Joint Staff to ensure consistency in reporting processes and reasonable changes between years to allow for year-over-year comparisons.

In addition, the Joint Staff Annual Report states that the CPUC received comments from the parties through February 24, 2016, and for the most part parties did not object to using 2015 as the baseline year.[1] The Joint Staff Annual Report further states that the 2015 estimated methane leaks and emissions are at approximately the same level of emissions that occurred in 1990.[2] While SoCalGas and SDG&E do not object to using 2015 emission as the baseline, SoCalGas and SDG&E do ***not*** agree that 2015 emissions are at approximately the same level as 1990. At the April 11, 2016 workshop held at ARB's office in Sacramento, SoCalGas presented information showing that based on the voluntary Environmental Protection Agency (EPA) Natural Gas STAR program, SoCalGas estimates that it has reduced cumulative emissions by approximately 2.5 Bcf since 1990.[3] While the 2015 reported emissions can be used to provide a baseline to gauge reduction efforts going forward, it is possible that as emissions factors are refined, the estimates made in 2015 may not be reasonable to establish a baseline and may need adjustment. This is a very important improvement that must be recognized by Joint Staff and a means of giving the utilities and storage operators credit for their continued progress over the years to reduce methane emissions. Additionally, SoCalGas and SDG&E note that revisions to emission factors for the various emission sources have been needed due to these industry improvements and technological advances that have contributed to these reductions.

2. Are there "Lessons Learned" from this reporting and analysis process that were not identified by staff?

SoCalGas and SDG&E have identified additional "Lessons Learned" from this reporting process that we believe will help bring clarity to understand the items noted below. SoCalGas and SDG&E provide further comments to Appendix A of the Joint Staff Annual Report in the attached Appendix 1.

- **Natural gas emissions from the Transmission, Storage, and Distribution systems are complex and varied as to the source, category, cause, and intent.** Simply referring to natural gas emissions as graded and ungraded or vented emissions can be misleading. Categorization should take into account the historic approach to the design of the various pipeline systems and components as well as the nature of the vast network of facilities

1 Joint Staff Annual Report, p. 9.

2 *Id*.

3 May 6, 2016, SoCalGas' and SDG&E's Opening Comments on the Staff Best Practices Report, p. 13.

with portions varying in age. Historically, natural gas emissions have been placed into the categories of fugitive and vented emissions. Both of these categories have portions that are both intentional and unintentional. Intentional emissions in both categories are sometimes operationally necessary for safety or reliability reasons, and some are associated with the design of the system or system components. Unintentional emissions can occur for reasons that are outside of the control of the operator such as third-party damages. The proposed revisions to the reporting templates and continued refinement in understanding of these issues will aid the Commission and ARB in determining appropriate reduction opportunities relative to the challenges of cost-effectiveness.

- **Estimating emissions is a function of both the available system information and the scope and approach on industry studies that have developed the various emission factors.** A clear understanding of the application of each individual emission factor is required to obtain the correct result. Emission factors have been developed based on facility types, individual component types, leaking and non-leaking components, population-based factors, and engineering estimate methodologies. Whether or not direct measurement methods will yield a better estimate is a function of many factors and may need additional analysis.

3. **Please provide comments on the proposed changes to the data reporting templates (Appendix 1). Do respondents have any additional template changes they would like to propose before a "third" revised annual report template is issued at the end of first quarter 2017?**

While SoCalGas and SDG&E agree that the proposed template modifications attached as Appendix E of Attachment 1 to the Joint Staff Annual Report appear to be reasonable, SoCalGas and SDG&E suggest additional clarifications. For graded leaks, SoCalGas and SDG&E understand that the intent was to separate these leaks into two categories: (1) leaks caused by damages; and (2) leaks not caused by damages. SoCalGas and SDG&E include proposed modifications to the Annual Reporting Templates from Appendix E of the Joint Staff Annual Report in the attached Appendix 2.

4. **Based on available information, are the January 2017 proposed Commission SED Staff revised Best Practices reasonable? (Attachment 2) Why or why not? What revisions are appropriate to ensure they fulfill SB 1371 goals?**

Adding flexibility to language for some BPs that enable utilities to evaluate the need to implement a BP prior to its blanket implementation is critical. One such case is BP #22 for Pipe Fitting Specifications. Considerable time, effort, and expense will be avoided by allowing utilities to evaluate their respective systems to first assess the areas where the need for such a BP exists (if it exists) prior to proposing and implementing a plan of action.

Additionally, language flexibility helps to avoid conflicts between other pending regulations such as the ARB Oil & Gas Regulations, which may contain more specific standards or thresholds for leak identification, tracking, and repair at our underground storage fields and transmission compressor stations.[4] It is SoCalGas' and SDG&E's understanding that for those SB 1371 BPs that cover the same issues as the final ARB Oil & Gas Regulations, Department of Oil, Gas, and Geothermal Resources (DOGGR), and/or CPUC GO 112-F (i.e., BPs 8, 18, 19, 23, 24, and 25), when SoCalGas and SDG&E meets the final ARB Oil & Gas Regulations, DOGGR, and/or CPUC GO 112-F, we would also have met the corresponding SB 1371 BP.[5] For example, if proposed ARB Oil & Gas Regulation §95668(i)(1)(A) is adopted and an underground storage facility implements a continuous air monitoring system pursuant to the regulation which also meets the objectives of BP #18, then the continuous air monitoring system should be accepted as meeting the requirement for BP #18 Stationary Methane Detectors for the storage field(s) in question. Therefore, SoCalGas and SDG&E suggest that for BPs 8, 18, 19, 23, 24, and 25 which state "This requirement should not be duplicative of [final DOGGR or ARB Oil & Gas Regulation or CPUC GO 112-F, or its successors[6]]" be clarified to state "This BP is met by the utilities if they meet the requirements of [final DOGGR or ARB Oil & Gas Regulation or CPUC GO 112-F, or its successors[7]] that relate to this BP."

For BP #18 (Stationary Methane Detectors) and BP #19 (Above Ground Leak Surveys), the language was revised during the December workshops so that both BPs now apply to above-

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4 *See* Scoping Memo and Ruling of Assigned Commissioner, dated July 24, 2015, at p. 3 ("Ensuring that the § 975 adopted rules and procedures are not inconsistent with the regulations and procedures adopted by the state and federal entities that are relevant to the issues raised by SB 1371.") CAL. PUB. UTIL. CODE § 975(g)("[E]nsure that the rules and procedures [the Commission] adopts are not inconsistent with the regulations and procedures adopted by those [state and federal] agencies.").

5 Except for BP #21 as it relates to CPUC GO 112-F, which states "Note 1: In no case shall the time to repair a leak exceed the repair times specified in G.O. 112 F and succeeding revisions, or as ordered by the CPUC Gas Safety and Reliability Branch." BP #21 is intended to exceed GO 112-F's requirements.

6 Refer to the appropriate BP for the applicable regulation.

7 Refer to the appropriate BP for the applicable regulation.

ground Compressor Stations, Gas Storage Facilities, City Gates, and Metering & Regulating (M&R) Stations. It is SoCalGas' and SDG&E's understanding that a primary reason for including M&R stations is high bleed pneumatic devices which might be located in the stations. SoCalGas and SDG&E are currently replacing all known high bleed pneumatic devices in its systems. Once the high-bleed pneumatic devices have been replaced in a station, SoCalGas and SDG&E recommends that the M&R station be excluded from these BPs.

Also, since BP #18 and BP #19 are both looking for emissions from the same set of above-ground facilities, they are redundant for those facilities. SoCalGas and SDG&E recommend that only one of the BPs be required for each above-ground facility. For example, once stationary methane detectors (BP #18) have been installed at a facility, frequent above-ground leak surveys should no longer be required (BP #19). As another example, Distribution regulator stations are already checked for leaks at least twice per year at SoCalGas and SDG&E (once during the leak survey of high pressure facilities[8] and again during the annual inspection of that station[9]). For these Distribution facilities, SoCalGas and SDG&E recommend that stationary methane detectors not be required. A cost-effectiveness comparison should be performed between BP #18 and #19 to determine which BP should be applied to each type of above-ground facility.

In addition, some clarification is still needed on the scope of M&R stations included under BP #18 and #19. In the June 17, 2016 annual reports, there are system categories named "Transmission M&R Stations" and "Distribution M&R Stations." If the intention is to include all of the facilities under these two categories as M&R stations, SoCalGas and SDG&E would have more than 12,500 above- and below-ground facilities. SoCalGas and SDG&E recommend that transmission farm taps and direct sale facilities be excluded from the scope of these BPs, which would exclude about 10,000 facilities. For stationary methane detectors, SoCalGas and SDG&E are not aware of devices that can be used in M&R station vaults, so until such a technology is available and tested, below-ground M&R stations without vents should also be excluded from the scope of BP #18. For clarity, SoCalGas and SDG&E recommend that BP #18

8 See 49 Code of Federal Regulations (CFR) §192.706 (Transmission lines: Leakage surveys) and 49 CFR §192.723 (Distribution systems: Leakage surveys). SoCalGas and SDG&E's policies require that all high pressure pipelines be surveyed at least once each calendar year.

and #19 be revised to identify the required facilities using the classifications used in the annual report appendices. For example, M&R stations should be identified based on the following potential categories:

Distribution M&R Stations	**Transmission M&R Stations**
A1 = above grade, pressure <100 psi	D = direct sale
A2 = above grade, pressure =100-300 psi	F = farm tap
A3 = above grade, pressure >300 psi	T = transmission-to-transmission
B1 = below grade, pressure <100 psi	
B2 = below grade, pressure =100-300 psi	
B3 = below grade, pressure > 300 psi	

For BP #26, SoCalGas and SDG&E have concerns with reporting multiple incidents, within a five-year period, of dig-ins from the same party in their annual reports. SoCalGas and SDG&E already provide confidential quarterly reports to the CPUC with a list of all dig-ins and repeat offenders during each quarter. Due to confidentiality concerns, SoCalGas and SDG&E intend to summarize the data on repeat offenders where data is available over a five-year period without identifying specific parties in the public versions of our annual reports.

SoCalGas and SDG&E support Staff's recommendation that BP #15, Gas Distribution Leak Survey, not be mandatory at this time and that the Commission should more thoroughly consider this BP. As acknowledged by SED in their recommendation, cost estimates to date for all BPs have only been rough estimates based on assumptions that may not be consistent with the final cost-effectiveness methodology that the CPUC wants to adopt to satisfy SB 1371 requirements. Once the CPUC adopts a cost-effectiveness methodology, utilities can consistently calculate the costs and benefits of these BPs, including the cost-effectiveness of transitioning from a 5-year leak survey cycle to a 3-year cycle.

5. Are SED "Staff Recommendations" including "Implementation of Compliance Plans" and Evaluation of Best Practices and R&D/Pilots" reasonable? Why or why not? Other considerations or suggestions that haven't been previously discussed or proposed in previous comments?

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9 49 CFR §192.739 (Pressure limiting and regulating stations: Inspection and testing) requires that pressure limiting and regulating stations be inspected at least once each calendar year. During these inspections, SoCalGas and SDG&E employees check for leakage.

SoCalGas and SDG&E support Staff's recommendations regarding the implementation process for the Compliance Plans, provision for conducting R&D or pilots to determine feasibility/costs/and benefits. We believe this is a reasonable framework for a path forward.

In addition, SoCalGas and SDG&E recommend establishing dates when the Compliance Plan templates will be finalized before the utilities are required to file in March 2018, when the utilities can expect to receive individual approval of their Compliance Plan, and when the utilities can expect the evaluation of the outcome of future annual reports. SoCalGas and SDG&E recommend that the Compliance Plan templates should be finalized at least six months prior to when the utilities file their first Compliance Plan in March 2018. Further, assuming the Compliance Plan templates will continue to go through a process of improvement over the coming years, it may be prudent to set additional dates for respondents to submit recommended changes to the various templates that will be developed. This date should be sometime between when Staff completes its evaluation of the Compliance Plan and annual reports and prior to Staff's March 31st deadline to publish the revised templates for the following year.

III. CONCLUSION

SoCalGas and SDG&E appreciate the opportunity to provide their comments and respectfully request that the Commission adopt the recommendations herein.

Respectfully submitted,

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Appendix 1

Appendix 1

System Categories	Emission Source Categories	Emission Factor (EF) Source of Method	Description	SoCalGas and SDG&E Comments
Transmission Pipeline	Pipeline Leaks	INGAA	Due to lack of details about each leak (e.g. size of orifice, duration of leak, and volume) pipeline operators were instructed to provide emissions using the approved EF by number of miles of pipeline. It was determined that use of the emission factor from INGAA Greenhouse Gas Emission Estimation Guidelines for Natural Gas Transmission and Storage - Volume 1 GHG Emission Estimation Methodologies and Procedures (September 28, 2005 - Revision 2) - Table 4-4 study would be the best available for Transmission Pipeline emissions at this time.	Recommend adding a worksheet tab for available leak data, similar to other templates where leak data is provided as supplemental information in addition to the population or mileage-based emission estimate.
	All damages (as defined by PHMSA)	Engineering Estimate	Event specific emissions data reported where emissions were estimated either from modelling or size of breach using pressure and duration to calculate the emissions.	No comments.
	Pipeline Blowdowns	Engineering Estimate	The emissions calculated based on unique equipment attributes using the recommended EF most closely associated with that component to estimate emissions volume (corrected for pressure and temperature). These emissions were assumed to emit for the entire year. Actual measurements of emissions are difficult to calculate due to variations in operations and impact of new equipment versus old and the efficacy of maintenance practices.	The comments here seem to be incorrectly placed from another area. Pipeline blowdown emissions are determined for each event, and the blowdown volumes are calculated based on specific event data (pipe volume, pressure, temp, etc.). See Transmission M&R Stations Blowdowns.
	Component Emissions:	GRI (1996)/ MRR	The emissions from components associated with transmission pipeline operations are based on the	Clarification is needed as to whether component emissions are accounted for as

System Categories	Emission Source Categories	Emission Factor (EF) Source of Method	Description	SoCalGas and SDG&E Comments
	Pneumatic Devices Pressure Relief Valves		recommended EF's outlined in Appendix 9 of the Data Request. In some cases, the components did not meet the definition for the EFs and discrete approximations based on manufacturer provided leak rates, direct measurement of the different operating states as well as the for specific values recommended for use in calculating component specific leaks times number of units of equipment.	part of the mileage-based INGAA emission factor. This information may need to be excluded from the emissions total and viewed as supplemental information.
	Odorizer (Odorizer and Gas Sampling Vents)	TCR	The EF's recommended in Appendix 9 were used where directly applicable, however where transmission pipeline dehydrator equipment did not match the pipeline operators used the discrete equipment attributes and operations profile to estimate emissions. The methods used appeared to provide the best estimate of emissions given the variety and operating context of these facilities.	This line item appears to have been confused with the line item for Dehydrator Equipment Emissions in Underground Storage. The recommended EF from TCR is overstated for more modern equipment. Recommend allowing engineering estimates based on the specific manufacturer specifications and application information when known.
Transmission M&R Stations	M&R Stations: - Farm Taps & Direct Industrial Sales -Transmission-to- Transmission Company Interconnect	MRR / GRI (1996)	The emission estimate for M&R stations are based on the EF's recommended in Appendix 9 multiplied by the population of each type of M&R station.	Clarification or definitions are needed for the different types of M&R facilities (such as pressure limiting stations, valve stations, metering stations, and the different types of small regulating station facilities; aka "Farm Taps" and "Direct Industrial Sales") and Transmission-to-Transmission. The application of the emission factor should also be clarified as to whether it applies to all facilities or just those found to have leaks during routine inspections.
	M&R Leaks	MRR	The discrete leaks for M&R stations would be captured	SoCalGas and SDG&E recommend adding

System Categories	Emission Source Categories	Emission Factor (EF) Source of Method	Description	SoCalGas and SDG&E Comments
			in the recommended EF's used to estimate the M&R station emissions and only where it could be determined that inclusion of discrete M&R leaks were not duplicated were they included in the count of emissions for this category.	a worksheet tab for vented emissions data (such as emissions from pneumatic devices), similar to other templates where supplemental data is provided in addition to the facility count-based population emission estimates.
	M&R blowdown	Engineering Estimate	Blowdown emissions were estimated based on the calculation of the unique equipment volume being vented corrected for pressure and temperature at the time of the release. The estimates for blowdown events in general provide a reliable emission estimate.	No comments.
Transmission Compressor Stations	Compressor Equipment - Centrifugal and Reciprocating.	MRR	The emissions calculated based on the direct measurement of each compressor unit given its operating state and pressure, and then the emissions are based on number of operating hours in each operating state.	No comments.
	Equipment and pipeline blowdowns	MRR	Blowdown emissions were estimated based on the calculation of the unique equipment volume being vented corrected for pressure and temperature at the time of the release. The estimates for blowdown events in general provide a reliable emission estimate.	No comments.
	Components	MRR	The equipment and component emissions are based on the leaks detected at the compressor stations times the recommended EF for that type of equipment per Appendix 9.	Recommend adding a worksheet tab for vented emissions data (such as emissions from pneumatic devices), similar to other templates to separate and distinguish fugitive leak emissions data from vented emissions data (such as component emissions that occur by design or releases during inspections and other operations and

System Categories	Emission Source Categories	Emission Factor (EF) Source of Method	Description	SoCalGas and SDG&E Comments
				maintenance that is necessary to operate the system safely).
	Compressor Station Storage Tanks	MRR	These emissions are based on discrete tank pressure fluctuations due to exterior temperature fluctuations. The initial volume of gas release calculation is based on the starting and ending pressures assuming a constant temperature.	No comments.
Distribution Mains and Services Pipelines	Pipeline Leaks - Below Ground	GRI (1996)	The emissions from leaks detected in 2015 in Distribution Mains and Service pipelines are calculated assuming that the leak was emitting from the first day of the calendar year through date of repair, or the entire year if not repaired in 2015, times the recommended EF. For identified leaks carried over from prior years the emissions are calculated from the beginning of the year through repair date (if repaired in 2015) or end of year times the recommended EF. In addition, leaks occurring in un-surveyed parts of operator's service territory were estimated based on the leak occurrence rate in the surveyed portion of the territory extrapolated based on number of years in the survey cycle to come up with the number of expected leaks in the un-surveyed territory times the recommended EF. This method of estimating the emissions from leaks occurring in un-surveyed portions of the service territory is considered a reasonable way of approximating the emissions and takes into account the frequency of leak detection surveys.	No comments.
	Pipeline Leaks - Above Ground	GRI(1996)	See above for below ground leaks. Above ground leaks associated with MSAs are not counted in the volume or	Recommend noting that any leaks associated with MSAs or M&R station

System Categories	Emission Source Categories	Emission Factor (EF) Source of Method	Description	SoCalGas and SDG&E Comments
			the numbers of leaks in order to prevent misleading representation of emissions as well as potential for duplication of emissions volumes.	facilities should not be reported in this category.
	Blowdowns and Venting	MRR	Blowdown emissions were estimated based on the calculation of the unique equipment volume corrected for pressure and temperature at the time of the release. The estimates for blowdown events in general provide a reliable emission estimate.	No comments.
	All damages (as defined by PHMSA)	MRR	Emissions from damages for AG Non-hazardous and MSA damages are calculated based on company emission factor for above ground facilities times the number of days leaking. For AG Hazardous and Below Ground Code 1 damages, emission was estimated based on based on engineering calculation using pipe size, damage opening size, and duration. For Code 2 and Code 3 damages, the emission factor for Distribution pipeline leaks was used. Where an estimate was not made at the time of the event, the emission was estimated from population of similar events with respective pipe material and pipe size.	Recommend noting that any damages associated with MSAs or M&R station facilities should not be reported in this category. Separate "Damages" line items should be added for MSAs and M&R Stations as these events can and do happen. Also, recommend removing the "Pipe Schedule" column, since it is not generally available information and is not necessary for estimating the emissions. The "Repair Date" column is also not necessary as the data is provided in the "Temporary Repair Date" and "Permanent Repair Date" column.
	Components - Pneumatic Devices	Engineering Estimate	Emissions from components such as pneumatic devices are based on manufacturer specifications for bleed rate given the pressure.	Recommend allowing EF for Pneumatic devices to be used where no other information is available. Clarification should be provided that this is only to include vented emissions from pipeline

System Categories	Emission Source Categories	Emission Factor (EF) Source of Method	Description	SoCalGas and SDG&E Comments
				components and should not include fugitive emissions.
	Odorizer (Odorizer and Gas Sampling Vents)	TCR	Not applicable for this category.	No comments.
Distribution M&R Stations	M&R Stations: - Farm Taps & Direct Industrial Sales - Transmission-to- Transmission Company lnterconnect	MRR /GRl (1996)	The emission estimate for M&R stations are based on the EF's recommended in Appendix 9 multiplied by the population of each type of M&R station.	This emission source category appears to have been mistakenly copied from Transmission M&R Stations. This should be corrected to be consistent with the current reporting templates.
	Blowdowns	Engineering Estimate	Blowdown emissions were estimated based on the calculation of the unique equipment volume corrected for pressure and temperature at the time of the release. The estimates for blowdown events in general provide a reliable emission estimate.	No comments.
	Components	Engineering Estimate	The emissions from components are captured in the EF used on a station by station basis and the discrete information on a subset of components in the facility would duplicate emissions and present misleading count information. Until further work can be done with more comprehensive survey techniques relying on the recommended EF's on a station by station basis is considered the best estimate of emissions at this time.	Recommend defining this line item as being for fugitive emissions and adding another tab for vented emissions.
Commercial, Industrial	Residential and Commercial	GRI (1996)	The emissions for this category is based on the MSA population count times the recommended EF per	Recommend adding tabs for “MSA Damages” and “MSA Leaks” as

System Categories	Emission Source Categories	Emission Factor (EF) Source of Method	Description	SoCalGas and SDG&E Comments
and Residential Meters	Meters		Appendix 9. There is substantial work currently being done to update EF's for MSAs and in future any updated EF's could be backward applied to 2015.	supplemental information.
	Vented Emission from MSA	Engineering Estimate	Emissions from venting MSAs are based on the number of events times the estimated volume release by MSA and/or the type of activity.	No comments.
Underground Storage	Facility Leaks	GRI(1996)/ Engineering Estimates	Emissions in this category are based on EPA GHG Subpart W data EF's multiplied by the number of units of each equipment type.	Recommend revising the emission factor to reference MRR Leaker Emission Factor (Table W-4).
	Compressor	Engineering Estimate	Emissions from storage facility compressors are calculated in the same manner as for compressors in other categories. See the description in the Compressor Station category.	Recommend revising this to "Compressor Seal Emissions."
	Blowdown and Venting	Engineering Estimate	Slowdown emissions were estimated based on the calculation of the unique equipment volume corrected for pressure and temperature at the time of the release. The estimates for blowdown event in general provide a reliable emission estimate.	No comments.
	Components	MRR	Component emissions are based on the leaks detected during GHG leak survey pursuant to the GHG Mandatory Reporting Regulation and each component's EF times the population count. All leak and component emission estimates are based on the assumption that the leak is leaking the entire year.	Recommend fugitive-type emissions be recorded on the line above for "Facility Leaks" and using this line category for vented-types of emissions.
	Dehydrator Emissions - Venting	MRR	The dehydrator emission estimate is based on the TCR Protocol for dehydrators.	No comments.

Appendix 2

Appendix 2

Application	Proposed Template Modification	Explanation	SoCalGas and SDG&E Comments
Appendices 1 through 7; All Template sheets.	Include a note to each tab for the utilities' formula used to calculate the Annual Emissions, rather than copy and paste-as value. Please do not include VLOOKUP unnecessarily in the data sheets.	By showing the formula, the review process is expedited. It will also be apparent if EFs or Engineering calculations are used. Staff is interested in seeing calculation assumptions used in estimating emissions of blowdowns. In cases where the formula cannot be shown since it is more complicated than the multiplication of terms on the row, please note in the explanations column.	Please see additional clarifications in the Table below entitled "Recommended corrections and clarifications needed in Annual Report Templates."
Appendix 8: Summary Table	Two of the Emission Types listed "Graded/ Non-graded Leaks" and "Non-graded Leaks/ Emissions". The Emissions Types will be changed so that only one type per category is allowed. Where additional emission types exist within a category then an additional line needs to be added for the second (or third) Emission type. For example, the type "Graded/ Non-Graded Leaks" would either be shown as "Graded Leaks," "Non-Graded Leaks"; or for "Non-graded Leaks/ Emissions" either "Non-Graded Leaks" or "Emissions" would be used.	Staff determined that only one emissions type should be listed per category line item. For example, either the leak type should be "Graded" or "Non-Graded" but the category line item emissions data should not contain both types of emissions. This should facilitate analysis and making charts for the Joint Report.	Definitions should be provided for each term clarifying the types of emissions to which it is intended, and whether it includes "fugitive" or "vented" emissions.

System Categories	Tab	SoCalGas/SDGE Recommended Clarification /Corrections Made on Original Templates
Transmission Pipeline	Pipeline Leaks	Unit of EF was corrected to "Mscf/Mile/Year"
	All damages	None
	Blowdowns	None
	Component Emissions	Unit of EF was corrected to "Mscf/day/Device"
	Odorizers	None
Transmission M&R Stations	Station Leaks & Emissions	Unit of EF was corrected to "Mscf/year/Device"
	Blowdowns	None
	Component leaks & Emissions	None
Transmission Compressor Stations	Compressor Emissions	Added "Turbine" as an additional Prime Mover
	Blowdowns	None
	Component Leaks & Emissions	Unit of EF was corrected to "Mscf/day/Device"
	Compressor Station Storage Tanks	None
Distribution Mains and Services Pipelines	Pipeline Leaks	Added two additional columns: one for "Additional Notes" and the other for "Leak Discovery Method"
	All Damages	Added an additional column for "Additional Comments"
	Blowdowns	None
	Component Emissions	None
	Odorizers	None

System Categories	Tab	SoCalGas/SDGE Recommended Clarification /Corrections Made on Original Templates
	Unknown Dist Leaks Est	This worksheet tab was added
Distribution M&R Stations	Station Leaks & Emissions	Unit of EF was corrected to "Mscf/yr/station"
	Blowdowns	None
	Component Leaks & Emissions	Unit of EF was corrected to "Mscf/year/device"
Commercial, Industrial and Residential Meters	Meter Leaks	Unit of EF was corrected to "Mscf/year/MSA"
	Vented Emissions	Unit of EF was corrected to "Mscf/event"
Underground Storage	Storage Leaks & Emissions	None
	Compressor Emissions	None
	Blowdowns	None
	Component Leaks & Emissions	None
	Dehydrator Vent Emissions	Unit of EF was corrected to "Mscf/yr/MMSCF"
Summary Table	Total Leaks & Emissions	None
	Leak Rate Data	Unit of EF was corrected to "Mscf" (cell C20). It was Mmscf originally.
	NG Specification	Added an additional column for "Rule 30 Limits"
Emission Factors	ARB recommended Emission Factor	Added an additional column for "Explanatory Notes / Comments"