

SAFETY POLICY DIVISION DATA REQUEST SPD-DR 001

SDG&E/SOCALGAS 2021 RAMP REPORTS- A.21-05-011/014

DATE RECEIVED: JUNE 18, 2021

DATE RESPONDED: JULY 7, 2021

Question 01:

Please provide a description of how SEMPRA verifies its risk scores? Please include a specific description on how it verifies its calculations for Likelihood of Risk Event (LORE) and Consequence of Risk Event (CORE) for the three risks with the highest risk scores as specified in your RAMP filing. Include how efficacy studies proposed in the SDG&E Wildfire Mitigation Plan¹ will inform SDG&E wildfire verification efforts.

SDG&E and SoCalGas Response 01:

SDG&E and SoCalGas object to the terms “verifies” and “verification” as vague and ambiguous. Subject to the foregoing objections, SDG&E and SoCalGas respond as follows:

SDG&E and SoCalGas utilize an amalgam of internal, industry, governmental, and academic data sources as inputs to quantitative modeling to determine the LORE, CoRE and risk scores. SDG&E and SoCalGas verified that the LORE, CoRE, and risk scores for all RAMP risks are calculated in compliance with the Settlement Agreement by having the individuals calculating these values review the data sources and modeling methodologies with company subject matter experts with the Settlement Agreement criteria to ensure compliance.

SDG&E plans to use the efficacy studies that are part of the proposed Wildfire Mitigation Plan to evaluate the effectiveness of programs that have been in place for multiple years. This evaluation will help validate assumptions around mitigation effectiveness when evaluating RSEs and will continue to be performed as more data becomes available.

¹ SDG&E, **2020-2022 Wildfire Mitigation Plan Update**, February 5, 2021, pgs. 50-70, section 4.2 Research Findings

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Question 02:

How does SEMPRA monitor and quantify the identified risk drivers? Please describe what is monitored and whether they relate to 1) grid conditions, 2) environmental conditions, or 3) operations.

SDG&E and SoCalGas Response 02:

SDG&E and SoCalGas utilize an amalgam of internal, industry, governmental and academic data sources to monitor, quantify and identify risk drivers. Monitoring includes, but is not limited to, incident evaluations, both internal and external, to stay apprised of risk drivers of identified risk areas which can include grid operations, environmental conditions and/or operations, as appropriate.

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Question 03:

How does SEMPRAs profile risk on its system? Please describe and provide data and related material that demonstrate the current risk profiles as described by Muhlbauer¹ for your utility assets and whether the potential impacts of mitigation on these profiles.

SDGE/SCG Response 03:

SoCalGas and SDG&E object to this question to the extent it requests information not possessed by SoCalGas and SDG&E. SoCalGas and SDG&E further object to the request as vague and ambiguous with respect to how “risk profiles as described by Muhlbauer” apply to the RAMP filing. Subject to and without waiving these objections, SoCalGas and SDG&E respond as follows:

SoCalGas and SDG&E interpret this question as seeking information on risk profiling as performed by SoCalGas and SDG&E as part of the 2021 RAMP proceeding. Additionally, SoCalGas’s and SDG&E’s understanding of Muhlbauer’s theory suggests that this question is seeking information on how pipeline risk has been evaluated on a per segment basis or how a collection of segments is ranked by the associated risk profile of assets.

First, SoCalGas and SDG&E profile risks as identified in their respective enterprise risk registries (ERRs). As discussed in Chapter RAMP-B, SoCalGas and SDG&E each perform independent annual processes to develop their respective ERRs. (See SDG&E-RAMP-B at 1-6; SCG-RAMP-B at 1-6.) An ERR, which is the “starting point for identifying the risks that will be included in the RAMP,” contains each company’s identified enterprise-level risks. (D.18-12-014, Appendix A S-MAP Settlement Agreement at A-7 “Risk Identification and Definition.”) The profiles or scope of the risks identified in the ERRs are part of Step 1: Risk Identification of SoCalGas’s and SDG&E’s respective Enterprise Risk Management process. In Step 1, the Enterprise Risk Management organizations at each utility works with various business units to update existing risk information and identify enterprise-level risks that have emerged or accelerated since the prior assessment. Step 1 also includes the identification of risk events, their causes, and potential consequences, as summarized in the risk bow tie.

At the enterprise level, risk profiles were determined using, in part, an aggregation of asset-driven data. Risk scores share some commonalities utilized in Muhlbauer’s basic risk assessment model, such as failure initiators (*e.g.*, corrosion, third party damage, incorrect operations), likelihood of failure, and consequence of failure as derived through SME input, and where appropriate, available aggregated industry and company data.

¹ Muhlbauer, W. Kent, Pipeline Risk Assessment, The Definitive Approach and Its Role in Risk Management, Expert Publishing, LLC Austin, TX 2015, pg. 62, sect 2.17

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SDGE/SCG Response 03: - CONTINUED

Then, SoCalGas and SDG&E trached, where appropriate, high consequence areas (HCAs) and non-HCAs to further account for the profile of risk for assets addressed by activities. Additionally, SoCalGas and SDG&E used aggregated program-specific data to quantify risk reduction benefits for certain activities.

Second, SoCalGas and SDG&E subdivided at the mitigation program level, as described in the RAMP Report. For example, the Transmission Integrity Management Program (TIMP) is a risk mitigation program discussed in the RAMP risk chapters of Incident Related to the High Pressure System (Chapters SCG-Risk-1, Control C21 and SDG&E-Risk-3, Control C15). TIMP performs risk assessments that “evaluate[] the Likelihood of Failure (LOF) using the nine threat categories (External Corrosion, Internal Corrosion, Stress Corrosion Cracking, Manufacturing, Construction, Equipment, Third Party Damage, Incorrect Operations, and Weather Related and Outside Force) for transmission pipelines located within an HCA. Pipeline operational parameters and the area near the pipeline are considered to evaluate Consequence of Failure (COF).” As part of the TIMP analysis, “Detected anomalies are classified and addressed based on severity with the most severe requiring immediate action.” (Chapter SCG-Risk-1 at 23-24; Chapter SDG&E-Risk-3 at 18.). The TIMP risk assessment process was previously explained by SoCalGas in the S-MAP proceeding (See A.15-05-004, Direct Testimony of Mari Shironishi (May 1, 2015)).

In addition, each utility continuously identifies and evaluates opportunities to enhance their respective enterprise risk management frameworks. For example, as SoCalGas explains (in Chapter SCG-RAMP-B at 8), it is “currently focused on more closely aligning risks with asset management practices, enhancing the Company’s integration of data and metrics into its risk-informed decision-making processes, and broadening the scope of risks evaluated as part of the annual Enterprise Risk Registry development process.”

Similarly, as SDG&E explains (in Chapter See SDG&E-RAMP-B at 7-8), SDG&E is working to more closely align risks with asset management practices; of which, one such effort is the development of operating unit risk registries: “The operating unit risk registries support the ERR process by providing a bottom-up approach to identifying risk. This bottom-up risk identification supplements the Company’s ERR categories with discrete risk mitigation activities... Additionally, the Company is leveraging the operating unit risk registries to inform internal asset management strategies to continue the integration of risk and asset management.”

Given that the RAMP and GRC are forecasting activities for a future test year, SoCalGas and SDG&E forecast the programs they expect to implement, including approximate units and costs. However, the exact locations (*e.g.*, segments) covered under these programs are not always knowable three to four years in advance as risk factors are subject to change. Accordingly, while several mitigations may address pipeline segment level activities, pipeline segment level analysis was not directly used for the RAMP Report.

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Question 04:

Please provide a wildfire risk profile for your transmission and distribution system assets located in Tier 2 and 3 that is consistent with the wildfire risk profile that Southern California Edison (SCE) provided in its 2019 GRC application.

SDGE/SCG Response 04:

Per agreement from SPD, the reply to this question was included as part of the response to SPD Data Request-04 Question 2 (submitted on July 21).

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Question: 05:

Please provide a similar risk profile for electric integrity risk for assets outside the High Fire Threat Districts (HFTDs), again consistent with SCE 2019 GRC application.

SDGE/SCG Response 05:

Per agreement from SPD, the reply to this question was included as part of the response to SPD Data Request-04 Question 2 (submitted on July 21).

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Question: 06:

Please provide post-mitigation risk profiles for the top three risks for the five mitigations with the largest funding request.

SDG&E and SoCalGas Response 06:

As mentioned in SDG&E's and SoCalGas's RAMP Reports,² the RAMP Report is not a request for funding but rather a discussion of planned mitigating activities and associated dollars. Requests for cost recovery of planned mitigating activities will occur within the Company's respective Test Year 2024 GRC Applications.

With this clarification, the RAMP Reports contain the information SDG&E and SoCalGas believe is being requested, i.e., each risk chapter includes a table³ with forecast dollar ranges for each mitigation, and each risk chapter contains a table⁴ with post-mitigation risk profile data for each mitigation.

² SCG/SDG&E-RAMP-A-12.

³ Refer to the tables in each risk chapter titled: Risk Control and Mitigation Plan – Recorded and Forecast Dollars Summary

⁴ Refer to the tables in each risk chapter titled: Risk Control & Mitigation Plan – Quantitative Analysis Summary.

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DATE RESPONDED: JULY 16, 2021

Question: 07:

Please provide information related to any risk assessments completed by SEMPRA for their assets regulated by the Pipeline Hazardous Materials Safety Administration (PHMSA) and Federal Energy Regulatory Commission (FERC) that is related to rate case proceedings. Since SEMPRA includes risks related to high pressure gas lines, full discovery requires relevant documents in recent PHMSA rate case proceedings.

SDGE/SCG Response 07: This reply in full supplements the partial reply provided July 7. SoCalGas and SDG&E object to the question regarding FERC on the basis that it is not relevant to this proceeding, as matters subject to FERC's jurisdiction are outside the scope of the CPUC's jurisdiction. Subject to and without waiver of the foregoing objection, SDG&E and SoCalGas does not have information related to risk assessments for assets regulated by FERC, because, as far as SDG&E and SoCalGas is aware, FERC does not conduct such assessments.

SDG&E and SoCalGas operate their respective high-pressure pipelines in accordance with state and federal regulations. In regard to the 2021 RAMP Report, the risk drivers for the high pressure system were developed using the PHMSA's identified pipeline failure causes. Additionally, the risk scores for the high pressure risks were developed using a combination of the PHMSA's and SoCalGas internal data including the likelihood of a high pressure asset failure as well as consequences related to safety, financial, reliability and stakeholder satisfaction. Lastly, the Transmission Integrity Mitigation Plan activities are captured in the RAMP Report along with the Gas Transmission Safety Rule and their associated descriptions and quantitative analysis are provided in RAMP Chapters SCG-RISK-1 & SDG&E-RISK-3 and workpapers applicable to these high pressure risk chapters.

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Question 08:

Please describe how dynamic segmentation as described by Muhlbauer² is incorporated into the calculation of LoRE and CoRE scores for the top three RAMP risks.

SDGE/SCG Response 08:

SoCalGas and SDG&E object to this question to the extent it requests information not possessed by SoCalGas and SDG&E. SoCalGas and SDG&E further object to the request as vague and ambiguous with respect to the application of dynamic segmentation to the top three RAMP risks. Subject to and without waiving these objections, SoCalGas and SDG&E respond as follows:

Please refer to the Response 03 above. Also, dynamic segmentation was not utilized in the calculation of risk scores in the RAMP Report of SoCalGas and SDG&E.

² Ibid, pg. 128, section 4.5

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Question 09:

For the top three risks identified in your RAMP filing, please describe what metrics and indices SEMPRAs management uses to monitor and assess utility employee and organizational performance. Please provide examples of internal executive communications that demonstrate how these metrics and indices are actively used for promotions and bonus compensations. In your description, include what metrics and indices are related to 1) grid age and equipment condition, 2) environmental conditions, and 3) operations. Include how these metrics are incorporated into the filed RAMP LoRE and CoRE scores for the top three risks.

SoCalGas and SDG&E Response 09: This reply in full supplements the partial reply provided July 7.

SoCalGas and SDG&E object to this question to the extent it is vague, seeks information that is outside of the scope of the proceeding, and/or seeks confidential and/or privileged information that is subject to employee privacy right protections. Subject to and without waiving these objections, SoCalGas and SDG&E respond as follows:

Regarding metrics and indices used to monitor and assess utility organizational performance:

Please refer to the Safety Performance Metrics Reports (SPMR) that SDG&E and SoCalGas each file annually on March 30. Please also see the discussion regarding operating goals below. In its respective SPMR, the Company provides examples of the metrics utilized by management to monitor, assess and improve safety performance and risk-based decision-making.¹

Regarding metrics and indices used to monitor and assess utility employee performance:

SDG&E's and SoCalGas's Incentive Compensation Plans (ICP) are performance-based programs that have specific metrics for goals across each company. SDG&E and SoCalGas update the metrics in these plans on an annual basis, in accordance with company goals. SoCalGas and SDG&E provide information regarding their ICP plans as part of their General Rate Case testimony showing.²

Because SoCalGas's and SDG&E's ICP plans are updated annually, it is not possible to provide static metrics and indices in response to this question. Instead, SoCalGas and SDG&E have provided information regarding their current plans below:

¹ See, e.g., SDG&E SPMR (March 30, 2021) at 13-18 (describing Wildfire Next Generation System) and *passim*; SoCalGas SPMR (March 30, 2021), *passim*.

² Testimony from the TY 2019 GRC is available at: https://www.sdge.com/sites/default/files/regulatory/SDGE-28%20SCG-30%20Robinson%20Prepared%20Direct%20Testimony_0.pdf.

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SoCalGas and SDG&E Response 09:-Continued

SDG&E:

SDG&E's top three risks identified in the RAMP report, as ranked by risk score are: Wildfire, Electric Integrity Infrastructure, and High Pressure System Incidents.

The ICP metrics associated with these top three RAMP risks are as follows (which SDG&E refers to as operating goals):

- Overhead system hardening (miles)
- Underground system hardening (miles)
- Wildfire safety communications
- Average days for tier 3 level 1 corrections
- Vegetation contacts in HFTD
- PSPS average circuit restoration time (hours) from "okay to patrol"
- Wildfire risk events in HFTD
- System Average Interruption Duration Index (SAIDI)
- Project program associated with PSEP Line 1600

SoCalGas:

SCG's top three risks identified in the RAMP Report, as ranked by risk score are: High Pressure System Incidents, Excavation Damage on the Gas System, and Medium Pressure System Incidents.

The ICP metrics associated with these top three RAMP risks are as follows, which SoCalGas refers to as operating goals:

- Damage Prevention - Damages per USA Ticket Rate,
- Pipeline Safety Enhancement Plan (PSEP) Pipeline Miles Remediated,
- Distribution Integrity Management Program (DIMP) – Vintage Integrity Program - Miles of Vintage Mains and Services Replaced,
- A1 Gas Leak Order Response Time,
- Age of Code Three Steel Leak Inventory, and
- Gas System Methane Emissions Reductions - Percent of planned high-pressure blowdown events releasing less than or equal to 2.5 million cubic feet.

Regarding how these metrics are incorporated into the filed RAMP LoRE and CoRE scores for the top three risks

The identified ICP metrics discussed above, with the exception of SAIDI, are not directly included in the calculation of LoRE and CoRE.

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SoCalGas and SDG&E Response 09:-Continued

To the extent these programs (e.g., PSEP) are evaluated for risk reduction in the RAMP Reports, the scope of that program (e.g., pipeline miles remediated) may have been used to calculate the post-mitigation LoRE and CoRE. SAIDI for SDG&E is a component of its MAVF and therefore has a direct impact on the calculation of CoRE.

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Question 10:

Using recently updated Federal guidelines,³ please describe how the risk modeling used by SEMPRA for the current RAMP filing is consistent with these guidelines. These guidelines speak specifically to the applicability of different types of risk models to various risk management decisions required by the Federal pipeline safety IM regulations. Since CPUC is delegated PHMSA agent for monitoring and enforcement, consistency with current Federal guidelines would inform the Commission's ratemaking proceeding in terms of SEMPRA's safety culture and performance. Include whether any recommendations made by the National Transportation Safety Board in 2015⁴ are addressed in RAMP filing.

SDGE/SCG Response 10: SDG&E and SoCalGas object to the term "risk modeling" as vague and ambiguous as used, and unintelligible and overbroad to the extent it calls for information and modeling beyond the scope of RAMP. Subject to the foregoing objections, SDG&E and SoCalGas respond as follows:

This reply in full supplements the partial reply provided July 7.

SDG&E's/SoCalGas's RAMP risk modeling is consistent with the Settlement Agreement in using probabilistic modeling - considered a Best Practice in the Federal guidelines, as shown in the Table III-1 below.⁵ In addition, consistent with row 31 (Data Support and Data Sources) of the Settlement Agreement, SDG&E and SoCalGas used some PHMSA data "combined with SME judgment to provide inputs to the risk methodology" (D.18-12-014, Appendix A, at A-18). The utilization of PHMSA data, SME judgment, and probabilistic modeling for risk management as well as the identified mitigations and controls in the RAMP are consistent with Federal guidelines.

³ Pipeline and Hazardous Materials Safety Administration, Pipeline Risk Modeling: Overview of Methods and Tools for Improved Implementation, February 1, 2020

⁴ National Transportation Safety Board, *Integrity Management of Gas Transmission Pipelines in High Consequence Areas* (<https://www.nts.gov/safety/safety-studies/Pages/SS1501.aspx>), 2015

⁵ Available: https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2020-03/Pipeline-Risk-Modeling-Technical-Information-Document-02-01-2020-Final_0.pdf.

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SDGE/SCG Response 10:-Continued

Table III-1
Risk Model Types and Applicability to Decisions

Decision Type	Model Category			
	A. Qualitative Model	B. Relative Assessment/Index Model	C. Quantitative System Model	D. Probabilistic Model
Risk Priorities for Baseline Integrity Assessment	A	A	A	BP
Preventive and Mitigative Measure Identification	A	A	A	BP
Preventive and Mitigative Measure Evaluation and Comparison	AI	AI	A	BP
Benefit-Cost Analysis for Risk Reduction Options	AI	AI	A	BP
Integrity Assessment Interval Determination	AI	AI	A	BP
General Risk Management Decision Making	AI	AI	A	BP

Key:

Can be Applicable with Additional Inputs to Risk Assessment Process	AI
Can be Applicable	A
Best Practice	BP

February 1, 2020

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Recommendations to PHMSA made by the National Transportation Safety Board in 2015 include the expansion of the use of in-line inspections and leveraging geospatial systems to integrate data for integrity management. Using these examples, SDG&E and SoCalGas continue to leverage in-line inspections and other allowable methods to assess transmission pipelines.⁶ SDG&E and SoCalGas also use Geographic Information System (GIS) mapping to manage asset data, as described in Chapter SDG&E/SCG-CFF-4 at 9.

⁶ Refer to SCG-Risk-1: Mitigation C21: Integrity Assessments & Remediation (starting on page SCG-1-23)