SAFETY POLICY DIVISION DATA REQUEST
SPD-DR-004
SDG&E/SOCALGAS 2021 RAMP REPORTS- A.21-05-011/014
DATE RECEIVED: JUNE 25, 2021
DATE RESPONDED: JULY 21, 2021

Question 1: SEMPRA Data Governance

SDG&E/SoCalGas split this question into sub-parts for ease of responding to the multiple questions within this one question.

Question 1.1: Please direct CPUC to the section of your RAMP filing that speaks to data governance and SEMPRA's data governance structure, policies and practices as it relates individually to So Cal Gas and SDG&E.

Question 1.2: Please include how data is stored and maintained and how it is used to predict asset conditions, risk modeling and inspection, maintenance and inspection strategies by the utilities.

Question 1.3: With regard to wildfire safety, please describe in detail any operational dashboards that depict wildfire-related metrics, summarizes program implementation, and tracks capital and O&M costs in its risk management activities. Also include any data for the past five years (2014-2019) and show trends for each activity in terms of implementation and asset performance.

Question 1.4: Please describe SDG&E's efforts to initiate a single Company-wide database for all electric integrity programs, why this was necessary when SDG&E's wildfire program is more than ten years old.

Question 1.5: Please describe how this database will incorporate analysis and process flows and be incorporated into future RAMP filings and GRC applications, including SEMPRA's 2022 GRC application.

Question 1.6: Please include data sources and when it is expected to be completed.

Question 1.7: Finally, describe how this database would have impacted the current RAMP filing if it had been available earlier.

Question 1.8: Please also describe how previous data governance regimes at SoCalGas and SDG&E impacted previous risk modeling, assessments, RAMP filings and Wildfire Mitigation Plans.

Question 1.9: How does SDG&E's past data governance shortcomings effect its Enterprise Asset Management Platform (EAMP), a centralized repository for asset data?

Question 1.10: How are the two related, particularly when EAMP is advertised as having "the ability to perform granular analysis[1]?"

[1] SDG&E, **2020 Safety Performance Metrics Report**, March 30, 2021.

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Question 1.11: How does SDG&E's Asset Integrity Management program provide a holistic and sustainable asset management system with an integrative approach for governance, strategy, analytics and continuous improvement?

Question 1.12: Please provide specific descriptions of your Investment Prioritization workstream and its use for capital investment optimization using risk modeling for evaluating capital investments in support of SDG&E's Federal Energy Regulatory Commission filings.

SDG&E/SoCalGas Response 01:

Response 1.1:
Please see Chapter SDG&E-Risk-1 of SDG&E's RAMP (Wildfire Involving SDG&E Equipment) at pages 80-81, 90, under C38 Central Repository for Data. Also please see Chapter SDG&E-CFF-1 (Asset Management) at page 9.

Regarding SoCalGas, please see Chapter SCG-CFF-1 (Asset and Records Management) at pages 7-10.

Additionally, see each company's Chapters RAMP-D (Safety Culture, Organization Structure, Executive and Utility Board Engagement, and Compensation Policies Related to Safety) and Chapters SCG-CFF-6 and SDG&E-CFF-7 (Safety Management System).

Response 1.2:
SDG&E uses various systems to store and maintain data. Each system serves a specific purpose to support certain functions such as asset management, risk assessment and modeling, maintenance, and inspections. These various systems are currently used to inform asset conditions, risk modeling and inspection, maintenance, and inspection strategies. SDG&E has recognized the need to establish a comprehensive approach to managing data. In particular, the Asset Management team is developing tools and processes to allow for more robust and comprehensive ways to manage electric asset data records. This includes an enterprise asset management platform that consolidates critical asset data from various systems into one view. This platform would serve as one of many resources to support the overall asset management strategy.

SoCalGas hosts a variety of information systems to fulfill the unique needs of all workgroups, including critical records, maintenance, safety, legal, fiscal, and contractual records. Applications maintained on foundational technology systems allow employees to track and retain accurate records and complete their day-to-day tasks. To make more effective use of and enable more integrated data analytics and decision-making capabilities, an Enterprise Asset Management department has been established to evaluate existing systems and processes in a more holistic manner, to determine more effective ways to manage the operational information, to leverage technology to enhance the value of the data, to identify other potential opportunities to improve

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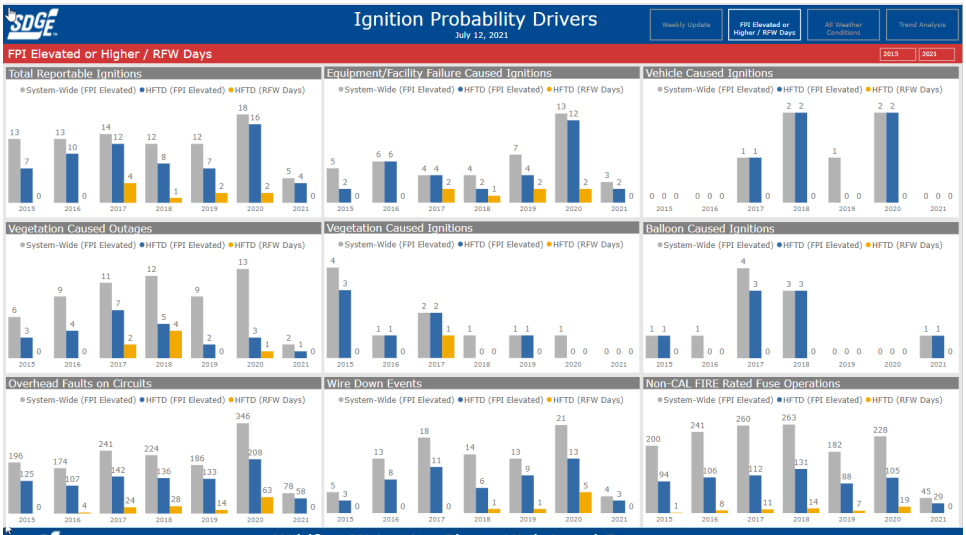
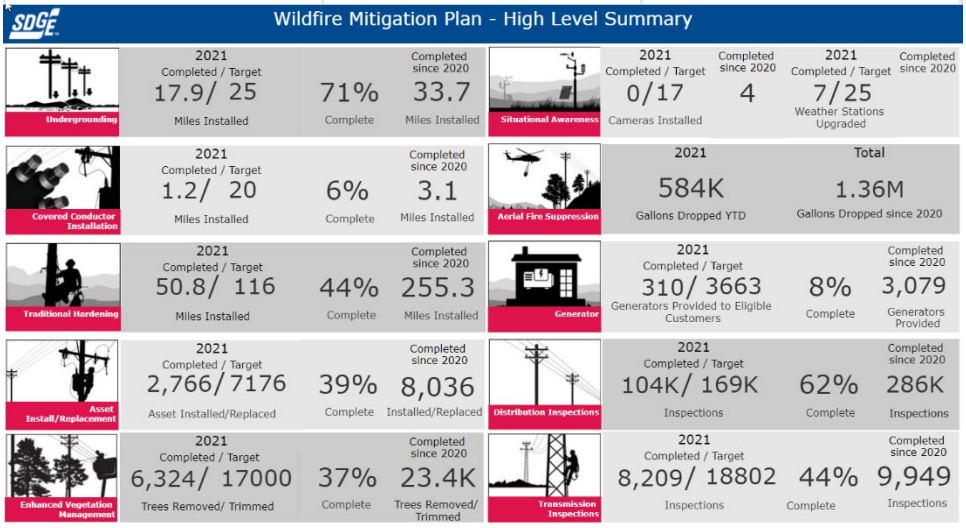
Response 1.2: - Continued

the records management program, and to perform oversight of day-to-day activities. To this end, one of the efforts underway is to consolidate various data in a common platform. This involves developing a more common set of metadata and taxonomy to allow for efficient data searches and integration.

Response 1.3:

SDG&E has developed an electronic wildfire mitigation dashboard that focuses on the numerous projects and initiatives under the wildfire mitigation program (WMP). Pages are dedicated to the tracking of ignition drivers, program management, inspection management, cost management, vegetation management, strategic undergrounding efforts, customer generator programs, advance system protection, monitoring of PSPS events, special projects, aviation services used, WMP governance and vegetation sustainability. This dashboard is refreshed weekly and provides overview of the WMP as it progresses through the year. Screenshots of the dashboard are provided below.





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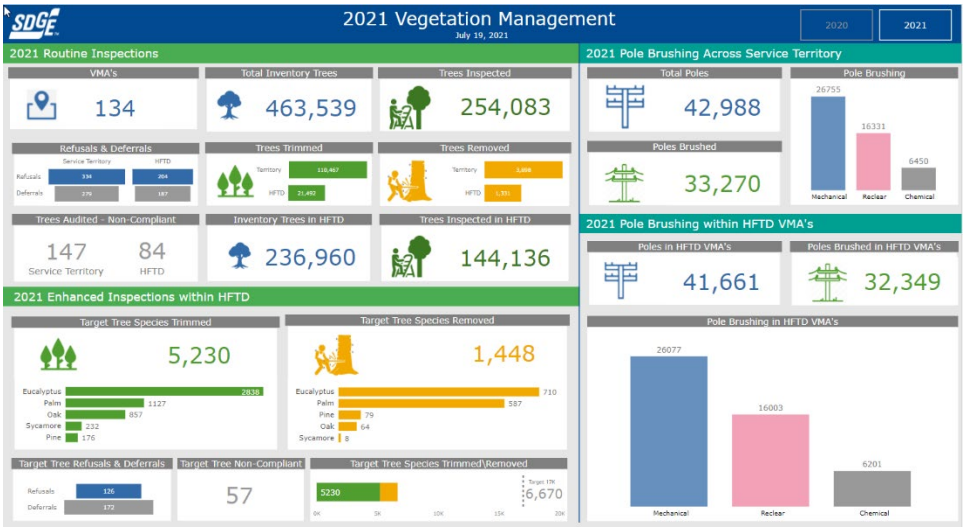
Response 1.3: - Continued



SDG&E's Wildfire cost and unit workpapers (available here: https://www.sdge.com/sites/default/files/regulatory/SDG%26E-Risk-1_Wildfires%20Involving%20SDG%26E%20Equipment_PDFA.pdf) demonstrate program implementation over time. These workpapers include recorded costs and units per program for years 2016-2020 as well as cost estimates and forecasted units for years 2022-2024. Also see Response 5 below regarding SDG&E's fire ignition metric, as defined by D.19-04-020.

Response 1.4:
SDG&E objects to this question to the extent that it misstates facts and/or is based on incorrect assumptions, and to the extent that it is unintelligible. Additionally, the RAMP Report is not a request for funding and should not be reviewed as such. Testimony requesting and providing support for funding will be submitted and examined as part of SoCalGas's and SDG&E's GRC applications and showing, which will provide complete descriptions of any projects and programs for which funding is requested. Subject to and without waiving these objections, SDG&E provides the following response:

As explained in Chapter SDG&E-CFF-1 at pages 7-8:

> Beginning in September 2019, SDG&E developed tools and solutions allowing for more robust and comprehensive ways to manage electric asset data records. With the focus on electric distribution data systems, the team has been developing an asset data lake that aggregates critical asset data from multiple disparate sources systems from across the company that reside within each business unit and consolidate into per asset class views in a centralized repository for poles, overhead conductors, underground cables, and underground tee connectors. The development of these tools includes data engineering, integration, statistical and advanced analytics models and identification of data gaps.

Response 1.4:-Continued

> Consolidating asset data into a centralized repository enables business units to utilize the data in a uniform and consistent manner and provides the ability to run advanced analytics on top of the data.

SDG&E assumes that the question may refer to the above-quoted paragraph. However, SDG&E does not consider the "centralized repository" discussed in the quote above regarding enterprise asset management to be a single database for electric distribution assets, as the question appears to assume. Rather, it is an additional tool that provides a holistic view of asset data and enables the operating groups to make data-driven decisions based on key attributes that are pulled from various systems. As mentioned in Response 1.2, this platform would serve as one of many resources to support the overall asset management strategy and electric integrity programs.

Separate and apart from the enterprise asset management platform, SDG&E's Wildfire RAMP chapter includes a mitigation (C38: Centralized Repository for Data) that is intended to be a "single source of truth" for wildfire data (*see* page SDG&E 1-81 – 1-82). This centralized repository for data is specific for wildfire and is not a Company-wide database for all electric integrity programs. However, SDG&E's centralized wildfire repository will complement and integrate with its enterprise asset management program efforts. SDG&E expects this centralized wildfire repository to be fully populated late in 2022.

Response 1.5:

See the objections and response stated in response to Question 1.4 above. SDG&E also objects to Question 1.5 to the extent that it calls for speculation and/or information that is not known and available to SDG&E at this time and/or information that is out of the scope of this proceeding. Subject to and without waiving these objections (and the objections stated in Response 1.4 above) SDG&E provides the following response:

As described in Response 1.4, SDG&E expects that its enterprise asset management platform will be an additional tool to support granular analysis that will be incorporated into future RAMP filings and GRC applications through various avenues including WiNGS and Investment Prioritization as well as to support the on-going quarterly submissions of the WSD Quarterly Data Report.

Response 1.6:

See the objections and responses stated in Responses 1.4 and 1.5 above. Subject to and without waiving those objections, SDG&E responds as follows: Data sources for the enterprise asset management platform include SDG&E's GIS, inspection and maintenance, outage, vegetation, and weather systems. To date, SDG&E has consolidated data for distribution cables, wires, poles, and tees. By the end of 2021, SDG&E plans to incorporate further assets into the enterprise asset management platform, including distribution switches and capacitors and transmission overhead structures, overhead conductor, and insulators.

Response 1.7:
See the objections and responses stated in Responses 1.4 and 1.5 above. Subject to and without waiving those objections, SDG&E responds as follows: The objectives of the enterprise asset management platform tool are provided in SDG&E CFF-1.

Response 1.8:
See the objections and responses stated in Responses 1.4 and 1.5 above. Subject to and without waiving those objections, SDG&E responds as follows:

The quantitative risk analyses set forth in RAMP filings rely heavily on data. Accordingly, the ability to locate and use meaningful data will always be a consideration. Because of this, previous RAMP filings leveraged both internal and external (national) data and subject matter expertise in their analyses, to differing degrees from the 2021 RAMP filing. As explained in previous RAMP filings, SoCalGas and SDG&E are working to further improve in the areas of information governance and data analytics. (See I.19-11-010 (cons.), Chapter RAMP-G at 13-14.) SDG&E and SoCalGas provide a brief summary of some of these planned and in progress enhancements below.

At SDG&E, data is managed within the specific areas of expertise and a combination of data sources are used for risk modeling, assessments, RAMP filings and Wildfire Mitigation Plans. SDG&E will build upon current asset data activities by forming a governing structure to oversee, monitor, and control the management of asset information. This includes the efforts to create asset information traceability and establish records management processes to identify data gaps, validate data quality, and perform data remediation.

As described in Chapter SCG-CFF-1 (at pages SCG-CFF-1-9 – 1-10), SoCalGas has established an Information Governance (IG) group to continue executing on records management, and to improve records management capabilities and oversight of day-to-day activities. In alignment with SoCalGas's safety culture, this organization provides operational oversight for records management processes in specific operational areas. For example, the IG group has launched an IG Steering Committee comprised of representatives from various business areas as a forum to address IG questions and concerns and to provide guidance and interpretation on corporate and regulatory policies and requirements. In addition, the IG group initiated an effort to evaluate current policies and procedures and develop a detailed strategy for improving program maturity, reducing risk, and achieving IG and records management goals by implementing recommended changes and improvements. The program seeks to develop policies, guidelines, and job aids to foster consistent practices to manage corporate information for use by all employees and contractors for the safe performance of their day-to-day work.

Data management efforts support the risk modeling performed by the Integrity Management organizations (TIMP, DIMP, and SIMP) which support work prioritization within asset classes.

Response 1.8: - Continued
SoCalGas's data governance program, while meeting or exceeding compliance requirements, lacks advanced data analytics on asset health and lifecycle projections, as well as integration of additional data sources across operational platforms. As SoCalGas matures its asset management capabilities as outlined in Chapter SCG-CFF-1, SoCalGas will have a more targeted and proactive approach to mitigate risk, creating a safer work environment and reducing costs associated with asset failure or unnecessary maintenance and replacement. The current operating model is limited because the implementation of the ISO 55000 guidelines and Enterprise Asset Management (EAM) processes are in nascent stages. This approach has allowed EAM to identify existing gaps in source data, processes, and systems. It is intended that the existing operating model will have to evolve to support the implementation of a future, more comprehensive SoCalGas EAM.

Response 1.9:
See the objections and responses stated in Responses 1.4 and 1.5 above. Subject to and without waiving those objections, SDG&E responds as follows:

As mentioned in Response 1.8, data management resides within the specific areas of expertise. SDG&E strives for continuous improvement. SDG&E's current asset data governance initiatives will build upon and enhance current asset data activities by forming a governing structure to standardize, oversee, monitor, and control the management of asset information. This includes the efforts to create asset information traceability and establish records management processes to identify data gaps, validate data quality, and perform data remediation.

Asset data governance will also include the development of asset data maturity metrics. Asset data maturity metrics will support the monitoring, controlling, and reporting of data sets and will measure how data quality progresses to an advanced state, for reporting purposes. Data maturity metrics will be developed for each asset type and will be based on unique sets of data quality priorities established by subject matter experts.

By implementing an formal asset data governance structure, SDG&E will mitigate the safety and reliability risks associated with incorrect or incomplete asset records by dedicating proper resources to oversee information management of asset data and ensuring that company data satisfies key quality criteria of availability, validity, accuracy, completeness, consistency, and timeliness.

Response 1.10:
See the objections and responses stated in Responses 1.4 and 1.5 above. Subject to and without waiving those objections, SDG&E responds as follows:

The activities described in Response 1.9 help support and improve the sustainability and reliability of the centralized repository for data. This leads to enhanced consistency of the

Response 1.10: - Continued
underlying data, which supports SDG&E's current efforts toward transparency and repeatable granular analysis.

Response 1.11:
SDG&E's RAMP Report discusses SDG&E's Asset Integrity Management (AIM) program in Chapters SDG&E-RAMP-D and SDG&E-CFF-1. SDG&E's AIM program builds the asset management system (AMS) utilizing ISO 55000, an international standard that specifies the requirements (ISO 55001) and application (ISO 55002) as a framework guide for establishing, implementing, maintaining, and improving a holistic AMS. Following ISO 55000 (a proven benchmark) leads to greater internal consistency across asset groups and repeatable and transparent business and asset management processes, promotes significant alignment across the organization and build "line of sight" to ensure employees at all levels fully understand their role in supporting the goals of the organization, at the top of which is safety.

Response 1.12:
SDG&E objects to this question as it seeks information that is outside the scope of the Commission's jurisdiction.

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Question 2: Use of Previous RAMP Filings and GRC Applications

SDG&E/SoCalGas split this question into sub-parts for ease of responding to the multiple questions within this one question.

Question 2.1: It is the Commission's expectations that utilities will use lessons learned from prior RAMP and GRC proceedings and incorporate those lessons into future relevant filings. This expectation is not only for the filings the utility makes but for filings but other major California utilities as well.

Please describe how SEMPRA utilized the lessons learned from prior RAMP and GRC proceedings in the current RAMP filing. Please include specific descriptions of how lessons learned from the recent SCE GRC proceeding and PG&E RAMP were incorporated into the SEMPRA RAMP report.

Question 2.2: For example, in the Safety Policy Division review of the PG&E RAMP filing, the first recommendation in its conclusions was that tranches were not sufficiently granular and did not have homogeneous risk characteristics. Please describe how SEMPRA addressed this issue, whether SEMPRA believes that its risk tranches have sufficient granularity and they adequately represent homogeneous risk characteristics.

Question 2.3: Similarly, the figure below is taken from the SCE 2019 GRC application. It shows how SCE determined risk scores in alignment with the SMAP SA and defined risk tranches by the circuit mile for every mile of distribution line in their HFTDs. Please describe how SDG&E conducted a similar analysis as specified in the SMAP SA and how it relates to its RAMP filing.

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Question 2.3:-Continued

Figure 1: SCE Wildfire Risk Profile (WRP)

Figure II-9
Modelled Wildfire Risk per Mile in HFRA

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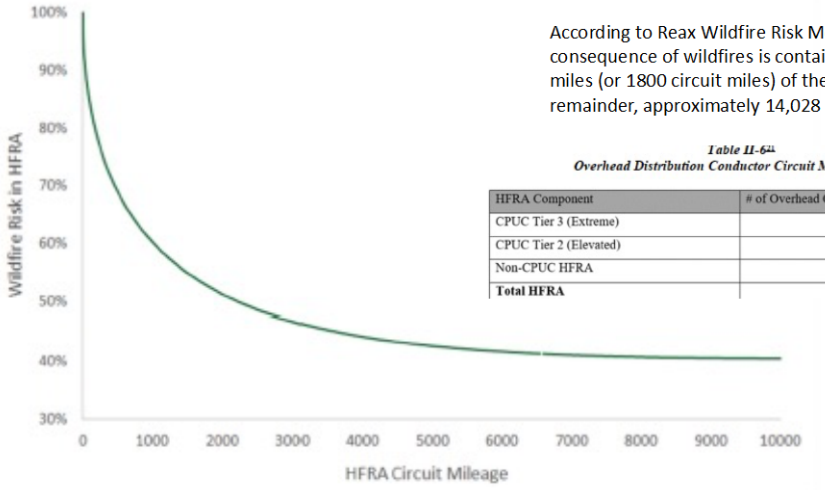

According to Reax Wildfire Risk Modeling, 93.87% of consequence of wildfires is contained within less than 2,160 miles (or 1800 circuit miles) of the utility's circuit miles. The remainder, approximately 14,028 present approximately 6.13%

Table II-6[21]
Overhead Distribution Conductor Circuit Miles in HFRA

HFRA Component	# of Overhead Circuit Miles
CPUC Tier 3 (Extreme)	5,900
CPUC Tier 2 (Elevated)	4,100
Non-CPUC HFRA	200
Total HFRA	**10,200**

SDG&E/SoCalGas Response 02:

SDG&E/SoCalGas Response to 2.1:
Chapter SCG/SDG&E-RAMP-E of SoCalGas's and SDG&E's RAMP Reports provide lessons learned that could apply to future RAMP filings made by other California investor-owned utilities (IOUs), pursuant to Decision (D.) 18-12-014 and D.16-08-018. Section II.B of Chapter SCG/SDG&E-RAMP-E specifically addresses lessons learned related to the other IOUs' respective RAMP filings. Chapter SCG/SDG&E-RAMP-A also includes features of the other IOU's RAMP filings that SoCalGas and SDG&E incorporated (*see* pages SCG/SDG&E-RAMP-A-5 and SCG/SDG&E-RAMP-A-9).

For convenience, a link to Chapters SCG/SDG&E-RAMP-A and RAMP-E is provided below:

RAMP-A: https://www.sdge.com/sites/default/files/regulatory/SCG_SDGE_RAMP-A_Overview_Approach_5-14-21.pdf

RAMP-E: https://www.socalgas.com/sites/default/files/SCG_SDGE_RAMP-E_LessonsLearned_5-17-21.pdf

RAMP-A and RAMP-E are shared chapters and are therefore the same for both companies.

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SDG&E/SoCalGas Response to 2.2:
As explained in Section III.E of Chapter SCG/SDG&E-RAMP-E (at pages 20-22), SoCalGas and SDG&E continue to advance their risk modeling and have provided risk analysis at granular levels, in accordance with the Settlement Decision, to the extent it is currently feasible. The Settlement Decision requires a utility to "subdivide the group of assets or the system associated with the risk into Tranches…based on how the risks and assets are managed by each utility, data availability and model maturity, and strive to achieve as deep a level of granularity as reasonably possible." The Companies complied with this requirement by analyzing mitigations with that type of subdivision, as discussed in RAMP-E.

RAMP-E explains the four ways of tranching that the Companies included in the RAMP Reports: (1) by risk event; (2) by identifying tranches for the risk event that are applicable to the entire risk; (3) by identifying separate programs for different assets; and (4) by further subdividing assets and systems when different risk profiles exist for an activity.

RAMP-A (at pages SCG/SDG&E-RAMP-A-8 – A-9) also discusses how SoCalGas and SDG&E increased the numbers of tranches presented in this RAMP:

> In addition to some of the risks in the 2021 RAMP now having more tranched mitigations than similarly scoped risks in the 2019 RAMP, the Companies have also identified a larger number of mitigations with additional tiers in the 2021 RAMP…Many of the additional first tier tranched mitigations – mitigations that have their own risk profiles – are the result of an increased understanding of RAMP qualifying criteria by members of the business units and quantitative analysis teams who have been through multiple RAMP and risk spend accountability report cycles…A second tier occurs among a particular asset class where the risk profiles of that asset can be subdivided further.

SoCalGas and SDG&E believe that their risk tranches have sufficient granularity because the mitigations presented in the RAMP are subdivided into situations that have similar risk profiles and are consistent with how SoCalGas and SDG&E manage the risks and assets.

SoCalGas and SDG&E believe that their risk tranches adequately represent homogeneous risk characteristics because the utility has no preference for prioritization of assets within each tranche. From a risk standpoint, there is no further risk subdivision that will occur.

SDG&E Response to 2.3:
Please note that this Response also applies to SPD DR-01 Questions 4 and 5, which are provided below:

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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 G
RC application.

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.

To determine pre-mitigation risk scores for SDG&E's Wildfire risk (Chapter SDG&E-Risk-1), SDG&E followed Steps 1A through 2B of the S-MAP Settlement Agreement. RAMP Chapter SCG/SDG&E-RAMP-C specifically explains the Risk Quantitative Framework, including how the pre-mitigation risk score, Likelihood of Risk Event (LoRE), and Consequence of Risk Event (CoRE) are calculated. For all risks, including Wildfire, pre-mitigation risk scores are calculated for the entire risk (i.e., at the risk level). Therefore, the pre-mitigation risk score for Wildfire does not utilize a circuit or mile-related analysis. The pre-mitigation risk score analysis for SDG&E's Wildfire risk is presented in Table 2 of Chapter SDG&E-Risk-1 (at page 13) and is broken down by Wildfire Risk, PSPS Impact, and Total Wildfire Risk Score (TWRS).

Post-mitigation risk scores are performed at the mitigation level (i.e., specific programs). For the Wildfire risk in particular, SDG&E used its Wildfire Next Generation System (WiNGS) model to perform a segmented type analysis of circuits located in the HFTD. The analyses were performed at a circuit segment level. SDG&E's WiNGS model also addresses the issue of quantifying the impacts of PSPS and identifying more optimal solutions to target both wildfire risk reduction as well as PSPS reduction.

The chart below represents the cumulative wildfire risk across cumulative circuit segment miles modeled in WiNGS. The WiNGS model is used to assess the wildfire risk on the overhead distribution system in the HFTD and as a subset of the non-HFTD system. SDG&E's WiNGS analyses did not include the transmission system – cost recovery associated with the transmission system is not part of the company's GRC application. The methodology for assessing the wildfire risk in WiNGS is aligned with the overall risk assessment methodology used in RAMP (i.e., Risk Quantification Framework). Note that the graph below only addresses the Wildfire risk portion of each segment, and not the PSPS impacts.

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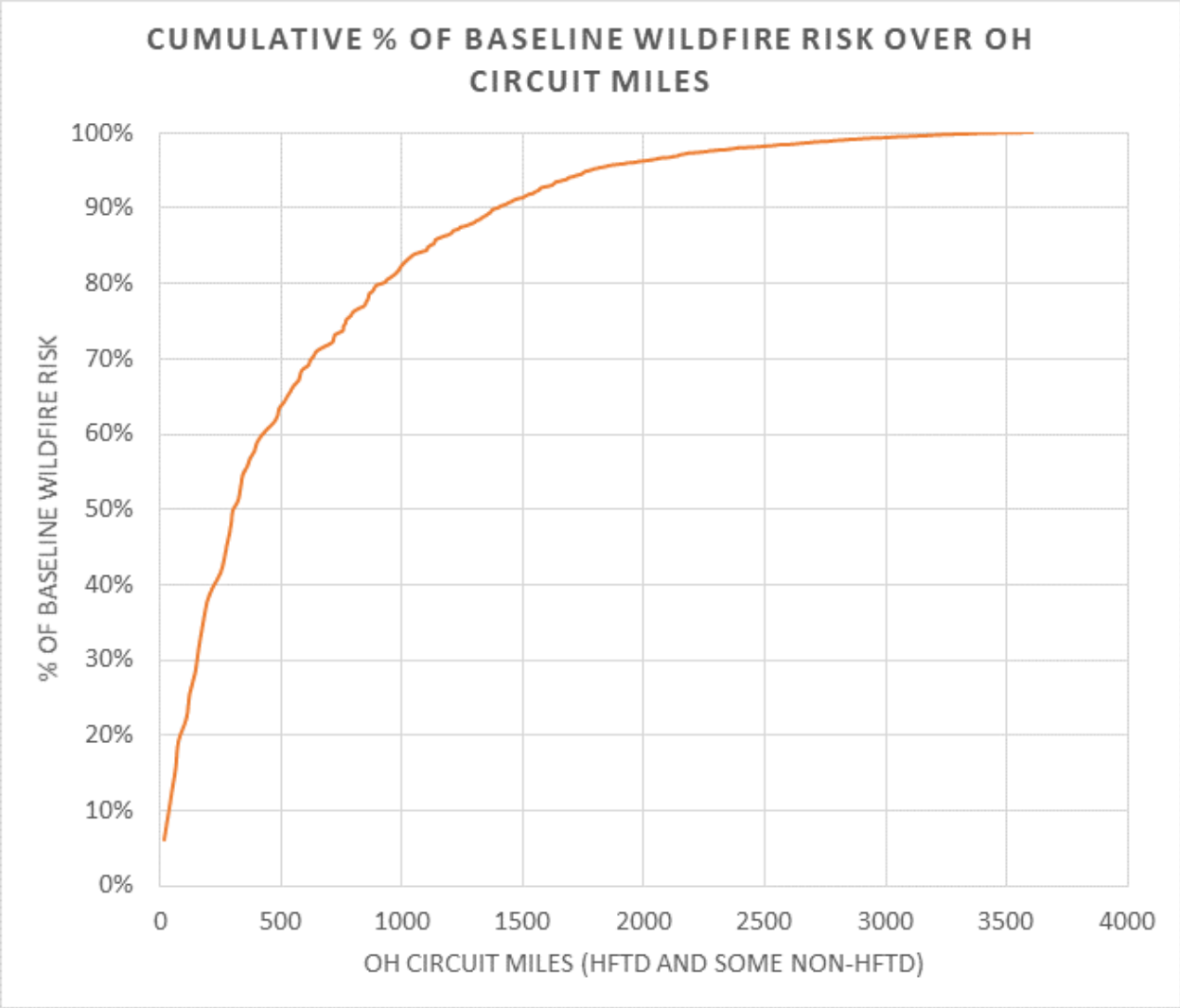

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Question 3: Justification of Proposed Mitigations

For proposed control/mitigation C2, GO165 Pole Replace Reinforcement SDG&E is forecasting a range between $22 to $27 M for 2022 to 2024. Your records show that to date this same item had a capital expense of $7 M. Why is there such a dramatic increase in this mitigation, an increase of 4x previous expenditures. How does SDG&E risk modeling support this acceleration in pole replacement in the 2022 to 2024 timeframe? Does SDG&E anticipate that this risk will be reduced to acceptable level for its distribution system by 2025? If so, please show SDG&E risk modeling that demonstrates that this mitigation will have an impact on utility safety and is supported by a quantitative risk assessment.

Similarly, proposed control/mitigation C5 Management of Overhead Distribution Service (Non-CMP) SDG&E is forecasting a capital expenditure of $23-29 M for 2022 to 2024. Your records show that to date this same item had a capital expense of $6.5 M How does SDG&E risk modeling support this acceleration in pole replacement in the 2022 to 2024 timeframe? Does SDG&E anticipate that this risk will be reduced to acceptable level for its distribution system by 2025?

If SDG&E believes additional capital investment will be needed in years beyond 2024, please describe SDG&E long-term strategy for pole replacement/reinforcement and management overhead distribution service from 2025 to 2035.

SDG&E Response 03:
SDG&E objects to this question to the extent that it is based on incorrect assumptions. The question is also vague as to the meaning of the term 'acceptable [risk] level.' SDG&E is unaware of a qualitative or quantitative definition of "an acceptable risk level." SDG&E also notes that the RAMP Report is not a request for funding and should not be reviewed as such. Testimony requesting and providing support for funding will be submitted and examined as part of SoCalGas's and SDG&E's GRC applications and showing. Subject to and without waiving these objections, SDG&E provides the following response:

As shown in the cost workpapers at SDG&E-Risk-2-WP-5, C2 (GO165 Pole Replacement Reinforcement) had a 2020 recorded amount of $7.222 million in capital. SDG&E estimates the capital costs for C2 to be $7.222 - $8.922 million in 2022, $7.367 - $9.100 million in 2023, and $7.514 - $9.282 million in 2024. The three-year sum (2022-2024) for C2 therefore equals $22.103 - $27.304 million in capital, as shown in Table 4 of Chapter SDG&E-Risk-2 (Electric Infrastructure Integrity or EII) at page 32.

Similarly, C5 (Management of Overhead Distribution Service (Non-CMP)) had a 2020 recorded amount of $6.487 million in capital. SDG&E estimates the capital costs for C5 to be $8.656 - $10.692 million in 2022, $7.5 - $9.265 million in 2023, and $7.5 - $9.265 million in 2024. The three-year sum (2022-2024) for C5 therefore equals $23.656 - $29.222 million in capital, consistent with Table 4 in the EII RAMP chapter.

SDG&E Response 03:-Continued

For convenience, SDG&E's EII cost and unit workpapers are available here: https://www.sdge.com/sites/default/files/regulatory/SDG%26E-Risk-2_Electric%20Infrastructure%20Integrity_WP_PDFA.pdf.

As demonstrated by the summarized cost estimates above and in the workpapers, SDG&E expects minimal increases for both C2 and C5 in the 2022-2024 period. These increases are attributed to the specific locations within SDG&E system that will be reviewed, which historically have experienced a higher replacement rate than other locations. SDG&E is not accelerating its pole replacement activities in the non-HFTD area. Rather, historical data and SDG&E's knowledge of its service territory, which requires detailed inspection of poles, have been utilized to identify an estimated minimal increase of costs for these activities, for RAMP purposes.

SDG&E's RAMP analysis involves calculating a quantitative-based pre-mitigation risk score at the risk level (i.e., risk score for the EII risk) and performing quantitative-based analyses for each mitigation activity to calculate the estimated reduction in the risk associated with each activity. SDG&E's RAMP analysis does not include calculating a post-mitigation risk score at the risk level (i.e., post-mitigation risk score for EII).

SDG&E's EII risk chapter does not include forecasts beyond the 2022-2024 period, which aligns with the test year 2024 GRC forecast years. That said, for both controls, SDG&E does expect capital investment beyond 2024, as SDG&E is required to inspect, review and fix known issues on the system pursuant to General Orders.

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SPD-DR-004
SDG&E/SOCALGAS 2021 RAMP REPORTS- A.21-05-011/014
DATE RECEIVED: JUNE 25, 2021
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Question 4: Alternatives Analysis
SDG&E is proposing an alternative, A2 – Modernize Manual Switches, with the goal of replacing every overhead and underground manual distribution switch within its system with a SCADA switch. This would allow full situational awareness of the SDG&E distribution system. But for some unexplained reason, SDG&E asserts that this would not enhance utility safety on its system which seems counterintuitive from a distribution engineering perspective. Given the operational and management advantages a distribution that is fully automated brings to the utility and SDG&E estimates a RSE of 12, should SDG&E prioritize the full automation of its system for a proposed capital cost of $ 64 to 80 M over undergrounding for the 2022 to 2024 timeframe? Why does SDG&E have such a large range for the proposed budget of this alternative if it has data showing how many switches would need to be replaced of the three year time period?

SDG&E Response 04:
SDG&E objects to this question to the extent that it is based on incorrect assumptions. SDG&E also notes that the RAMP Report is not a request for funding and should not be reviewed as such. Testimony requesting and providing support for funding will be submitted and examined as part of SDG&E's GRC application and showing. Subject to and without waiving these objections, SDG&E provides the following response:

SDG&E currently has a fully automated system, with roughly every distribution circuit having an automation feature. The scope of A2 pertains to replacing every overhead and underground switch with a SCADA switch regardless of location or amount of SCADA switches already on the circuit and regardless of the customer reliability improvements by this replacement, which accounts for the large range of costs for A2. While SDG&E agrees that adding more SCADA devices in the system will provide situational awareness, A2 was dismissed, as explained in the EII RAMP Chapter at page 50: "Rather than proposing a program to replace all manual distribution switches at this time, SDG&E instead put forth a plan for strategic, prioritization-targeted replacement." In other words, it is not feasible or cost effective to replace every existing switch on SDG&E's distribution system with a SCADA switch; A2 does not provide substantial benefit (enhance utility safety or otherwise) compared to other infrastructure improvements, as calculated by the RSE. This was also described in the EII RAMP Chapter on page SDG&E 2-50: "it does not directly impact public safety, and the associated cost to perform such a replacement on every switch would provide diminishing returns for reliability and in many situations be redundant." The phrase, "it does not directly impact public safety" is explained by the fact that SDG&E's system is already fully automated, such that A2 "would provide diminishing returns for reliability and in many situations be redundant."

SDG&E agrees replacement of existing manual switches with SCADA switches are needed. Replacing switches requires evaluation so that the location selected brings value to customers. Accordingly, SDG&E included Control 18 (Distribution Circuit Reliability), which is designed to perform this exact function by replacing manual switches with SCADA, prioritized based upon the amount of customers impacted and cost.

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Question 5: SoCal Gas and SDG&E SIF Five Year Statistics – Presentation of Data

Please provide data in the format shown in the examples below.

UtilityAnalytics WEEK

Risk Analytics – Number of Fatalities by Year

	2014	2015	2016	2017	2018	
cause/year	No. of Fatalities	No. of Fatalities	No. of Fatalities	No. of Fatalities	No. of Fatalities	No. of Fatalities
maintenance - tree trimmer	3	0	0	0	1	4
maintenance - other	2	0	0	0	0	2
aircraft accident	1	0	2	2	6	11
downed line	3	1	1	1	0	6
ag accident	0	0	0	0	0	0
digging accident	0	0	2	0	0	2
mylar balloon	0	0	0	0	0	0
Physical Security - vandalism	1	2	0	0	0	3
Physical Security - metal theft	0	1	1	0	0	2
Physical Security - Suicide/Attempted	2	1	1	1	0	5
Miscellaneous	0	0	1	0	1	2
	12	5	8	4	8	37

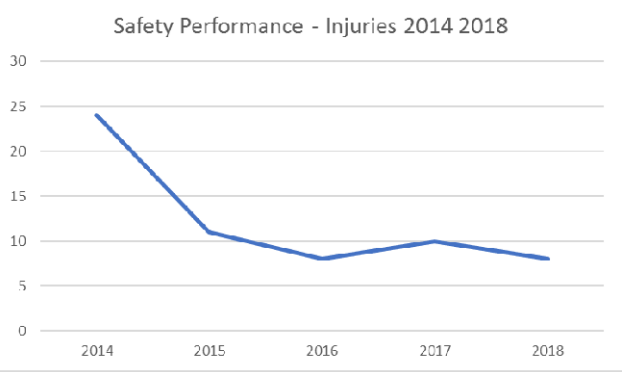
2

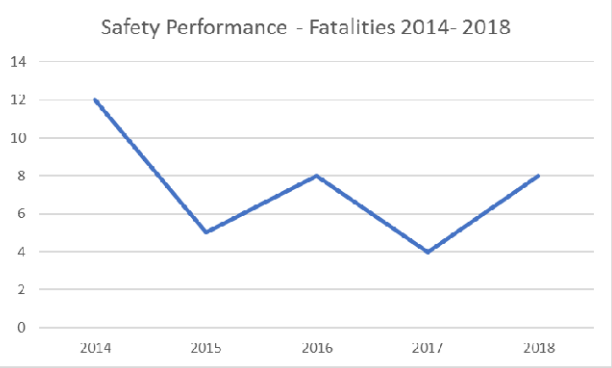
UtilityAnalytics WEEK

Risk Drivers – Contact with Energized Equipment 2014-2018

Major Causes of Injuries
- Maintenance workers
- Digging accidents – contact with underground equipment
- Vandalism of utility assets

Major Causes of Fatalities
- Aircraft accidents





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Question 5:-Continued

Risk Analytics – Number of Injuries by Year

	2014	2015	2016	2017	2018	TOTALS
cause/year	No. of Injuries	No. of Injuries	No. of Injuries	No. of Injuries	No. of Injuries	No. of Injuries
maintenance - tree trimmer	0	1	4	0	1	6
maintenance - other	5	1	3	3	0	12
aircraft accident	2	1	0	2	0	5
downed line	4	0	0	2	0	6
ag accident	1	1	1	0	0	3
digging accident	3	4	0	1	4	12
mylar balloon	0	0	0	0	1	1
Physical Security - vandalism	6	1	0	2	2	11
Physical Security - metal theft	1	0	0	0	0	1
Physical Security - Suicide/Attempted	0	1	0	0	0	1
Miscellaneous	2	1	0	0	0	3
	24	11	8	10	8	61

***Table II*-14**
***Fire Ignitions – Historical Monthly Data*[59]**

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Totals
2014	N/A	N/A	N/A	N/A	1	6	6	6	5	3	6	6	**39**
2015	2	2	4	20	17	19	11	7	8	7	8	2	**107**
2016	4	10	3	14	8	16	6	4	9	11	5	6	**96**
2017	4	1	6	9	17	21	15	13	7	6	3	3	**105**
2018	4	6	2	14	8	19	11	13	6	16	6	5	**110**
2019	1	1	5	15	7	23	15	20	20	7	9	1	**124**
2020	4	4	8	4	12	41	16	20	8	12	12	8	**149**
Average by Month	**3**	**4**	**5**	**13**	**10**	**21**	**11**	**12**	**9**	**9**	**7**	**4**	-

SDG&E/SoCalGas Response 05:
SDG&E and SoCalGas object to this question to the extent that the information does not exist in the requested format. The question is also objectionable to the extent that it calls for SDG&E and SoCalGas to speculate as to the assumptions and definitions used in the creation of the above tables. Subject to and without waiving these objections, SDG&E provides the following response:

SDG&E/SoCalGas Response 05:-Continued

Within their respective RAMP analyses, neither SDG&E nor SoCalGas used SIF data in a manner that comports to the data in the provided tables, and neither company is therefore able to provide RAMP data in the requested format. SDG&E and SoCalGas provide SIF data as part of their annual Safety Performance Metrics Report (SPMR) consistent with the definitions adopted in D.19-04-020. Appendix B of SoCalGas's and SDG&E's respective reports include 10 years of monthly SIF data, where available. SDG&E's Fire Ignition data, as defined in D.19-04-020, is included in SDG&E's 2020 SPMR (note: the fire ignition metric in D.19-04-020 does not apply to SoCalGas). For SPD's convenience, SoCalGas and SDG&E have separately attached their respective SPMRs for 2020 data, filed in March 2021, and Appendix B of the 2020 SPMRs in Excel format.