Risk Assessment Mitigation Phase

(Chapter SCG/SDG&E-RAMP-E)
Lessons Learned

May 17, 2021

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RAMP-E: LESSONS LEARNED

I. INTRODUCTION

This chapter identifies lessons learned that could apply to future Risk Assessment Mitigation Phase (RAMP) filings made by other California investor-owned utilities (IOUs), pursuant to Decision (D.) 18-12-014 and D.16-08-018.[1] This chapter discusses lessons that SoCalGas and SDG&E (the Companies) have learned from feedback and experience in the 2019 RAMP Proceeding[2] and have incorporated into these 2021 RAMP Reports, as well as from the RAMP submissions of Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE). This chapter also addresses feedback and comments considered from the 2019 RAMP Proceeding and feedback received in connection with pre-filing activities held in advance of the Companies' 2021 RAMP Reports. RAMP-A addresses intervenor feedback that was incorporated into the Companies' RAMP Reports; this chapter summarizes feedback received and discusses how it was carefully considered in the preparation of this RAMP.

The Companies appreciate the feedback received and are committed to continuously improving by incorporating best practices and lessons learned, and collaborating and sharing knowledge with the Commission, IOUs, and other stakeholders. These lessons learned have helped make these RAMP Reports substantially more detailed, quantitative, and robust than the Companies' last RAMP filing. Incorporating feedback from stakeholders, these RAMP Reports include a new major attribute (Stakeholder Satisfaction) beyond the three required attributes for the first time in the state, add a new sub-attribute (acres burned), increase the number and percent of activities that have risk spend efficiencies, add descriptions in instances an RSE could not be calculated, and make a number of other positive changes. The Companies commit to continuing on the trajectory of improving and maturing their RAMP processes and presentations in future Reports.

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1 D.18-12-014 at 34; D.16-08-018 at 151 ("Lessons learned by one company will also inform the RAMP filings of the other companies.").

2 Investigation (I.) 19-11-010/-011 (cons.), Order Instituting Investigation into Southern California Gas Company's and San Diego Gas & Electric Company's Risk Assessment and Mitigation Phase (2019 RAMP Proceeding).

II. LESSONS LEARNED CONSIDERING THIRD PARTY INPUT

In the Companies' 2019 RAMP Proceeding, parties submitted comments providing feedback and recommendations for SoCalGas's and SDG&E's next RAMP filings. In closing the 2019 RAMP Proceedings, the 2019 RAMP Decision ordered the Companies to "address and consider in their next Risk Assessment Mitigation Phase (RAMP) applications, the comments and suggestions by intervenors regarding the 2019 RAMP Report and further improvement of the RAMP process. The utilities' next RAMP filing shall fully comply with the guidelines set forth in Decision 16-08-018 and the Safety Model Assessment Proceeding Settlement Agreement."[3]

In addition to comments on the 2019 RAMP submissions, the Companies received oral and written feedback[4] on their preliminary position explanations during pre-filing RAMP events (public workshops and working group meetings).

As demonstrated in Chapters SCG/SDG&E RAMP-A, SCG and SDG&E RAMP-B, and SCG/SDG&E RAMP-C, these 2021 RAMP Reports fully comply with Commission decisions governing the RAMP process, specifically D.18-12-014 (Settlement Decision) and D.20-09-004 (2019 RAMP Decision). The Commission decisions allow for some flexibility in how certain requirements are met, and the Companies strive for continuous improvement. Accordingly, the Companies carefully evaluated and considered the valuable comments received from parties, which in turn influenced these 2021 RAMP Reports. Some intervenor feedback was incorporated into these RAMP Reports, as discussed in Chapter SCG/SDG&E RAMP-A; other feedback was carefully reviewed and considered but may not have been incorporated. Many of the comments made during the public forums mirrored comments received on the 2019 SoCalGas and SDG&E RAMP submissions[5] or were recently made in PG&E's 2020 RAMP proceeding.[6]

A. Summary of Intervenor Feedback

Table 1 below captures and addresses feedback received from parties, including the Public Advocates Office (CalPA), The Utility Reform Network (TURN), Mussey Grade Road

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3 D.20-09-004 (the 2019 RAMP Decision) at 18-19 (Ordering Paragraph [OP] 1).

4 Written feedback was provided in "informal comments" served on February 12, 2021.

5 I.19-11-010 (cons.).

6 Application (A.) 20-06-012.

Alliance (MGRA), Utility Workers Union of America (UWUA), Protect Our Communities Foundation (PCF), and FEITA Bureau of Excellence (FEITA). For practical reasons, the table does not cover each minute issue raised in parties' comments, especially where such issues were not understandable.[7] The Companies appreciate and have carefully considered all feedback in accordance with the 2019 RAMP Decision. Table 1 covers the majority of topics raised.

Table 1 demonstrates that the Companies incorporated a majority of the feedback received into their 2019 RAMP Reports. This, as well as going through the RAMP process in general, helped the Companies to continue to evolve in their risk practices. Input that was considered but not incorporated into the 2021 RAMP Reports was generally not included because either: (1) there was a disagreement of interpretation amongst the parties, or (2) the recommendation was beyond the requirements for RAMP. Should the Commission want to consider those issues, they could be resolved in a statewide proceeding such as the ongoing Safety Model Assessment Proceeding Order Instituting Rulemaking (S-MAP OIR).[8]

Table 1

Topic	Party Comment	SoCalGas and SDG&E Response
Number of Attributes	Included only three attributes in the 2019 RAMP Report (Safety, Reliability, and Financial) even though when making investment decisions for risk mitigations, the Companies acknowledge a variety of other factors are considered.[9]	The Companies appreciate this feedback and have revised the MAVF in this RAMP report. As described in Chapters SCG/SDG&E RAMP-A and C, SoCalGas's and SDG&E's 2021 RAMP Reports include additional attributes (a top and sub-attribute). Note, feasibly incorporating additional attributes is bound by practical limitations.

7 As an example, PCF's informal comments (at Section IV) expressed opposition to including a mitigation in the 2021 RAMP Reports to place markers on real property. SoCalGas and SDG&E are unaware of the program PCF references.

8 Rulemaking (R.) 20-07-013, Order Instituting Rulemaking to Further Develop a Risk-Based Decision-Making Framework for Electric and Gas Utilities.

9 I.19-11-010 (cons.), *Comments of The Utility Reform Network on Southern California Gas Company and San Diego Gas & Electric Company's Risk Assessment and Mitigation Phase Submissions* (April 6, 2020) at 3; *See also* I.19-11-010, *FEITA Bureau of Excellence Comments on SoCalGas and SDG&E 2019 RAMP Filing* (April 6, 2020) (FEITA Comments) at 17.

Topic	Party Comment	SoCalGas and SDG&E Response
New Fourth Attribute	The Companies' newly proposed attribute is incomplete, has the potential to overlap with other attributes,[10] and may result in inflated risk analyses.[11]	The Companies appreciate this feedback and have further clarified their fourth attribute proposal in their 2021 RAMP Reports to address the comments received, as discussed in Chapters SCG/SDG&E RAMP-A and C.
Equivalencies Between Attributes	Equivalencies implied by the Companies' Risk Quantification Framework are questionable, because in comparing between the financial and safety attribute, the result in terms of the statistical value of life are beyond that of the federal agencies.[12]	In both the 2019 and 2021 RAMP Reports, the Companies constructed their Risk Quantification Framework in accordance with the six principles outlined in the Settlement Decision, which do not require equivalencies to be based on a statistical value of life.[13] This is further discussed in Section III below (and in SCG/SDG&E RAMP-C). Moreover, the Commission is considering whether to adopt a risk tolerance standard as a statewide issue in the ongoing S-MAP OIR.[14]
Removal of Shareholder Financial Interest	The 2019 RAMP Report did not demonstrate that shareholders' financial interests have been removed from their risk assessment decision-making.[15]	The Companies disagree with PCF's assessment with respect to their 2019 RAMP Report. In their 2021 RAMP Reports, Chapter SCG/SDG&E RAMP-C discusses

10 *Informal Comments of TURN In Response to the Sempra Pre-RAMP Workshops* (February 12, 2021) (TURN Informal Comments) at 6-7.

11 *The Protect Our Communities Foundation's Comments on January 27, 2021 Pre-Filing 2021 RAMP Workshop #2 of SDG&E and SoCalGas* (February 12, 2021) (PCF Informal Comments) at Section III.

12 TURN Informal Comments (February 12, 2021) at 5-6.

13 *See* Settlement Decision, Appendix A at A-5 – A-6.

14 *See* Rulemaking (R.) 20-07-013, *Assigned Commissioner Scoping Memo and Ruling* (November 2, 2020) (S-MAP OIR Scoping Ruling) at 7-9.

15 I.19-11-010 (cons.). *The Protect Our Communities Foundation Reply in Support of its Proposal Regarding How This Proceeding Should Move Forward in Light of the Directives in D.20-01-002; and Comments on the Joint 2019 Risk Assessment and Mitigation Phase Report of Southern California Gas Company and San Diego Gas & Electric Company* (April 6, 2020) (POC Comments) at 38 (Section IX).

Topic	Party Comment	SoCalGas and SDG&E Response
		how SoCalGas's and SDG&E's financial attribute is calculated. Shareholder financial interests are not included.
Secondary Impacts	An analysis of secondary impacts was arbitrarily eliminated in the 2019 RAMP Report.[16]	The Companies explained the challenges of secondary impact analysis in their 2019 RAMP Report.[17] As explained in the 2021 RAMP Report's Chapters SCG/SDG&E RAMP-A and C, SoCalGas and SDG&E attempted to analyze certain secondary impacts from the risk events. Secondary impacts were incorporated into the Cybersecurity risk chapters. Secondary impacts remain difficult to discover, meaningfully quantify, and incorporate.
Use of Frequency versus Likelihood	Frequency effectively represents risk reduction, since it effectively handles the case of multiple risk events per year.[18] Likelihood, not frequency, should be used to calculate the likelihood of a risk event.[19]	The Companies have appropriately provided and quantified frequency and likelihood in their 2019 and 2021 RAMP Reports. The use of frequency in calculating pre-mitigation risk scores is appropriate due to the Enterprise Risk grouping used for risk quantification, as discussed in SCG/SDG&E RAMP-C, and is permitted in the Settlement Decision.[20] A more detailed discussion is included in Section III below.

16 POC Comments (April 6, 2020) at 21.

17 I.19-11-010 (cons.), *Joint 2019 Risk Assessment and Mitigation Phase Report* (December 2, 2019) (2019 RAMP Report), Chapters RAMP-A at A-11 – A-12 and RAMP-C at C-33 – C-34.

18 I.19-11-010 (cons.), *Mussey Grade Road Alliance Comments on SDG&E's 2019 RAMP Filing* (April 6, 2020) (MGRA Comments) at 7.

19 I.19-11-010 (cons.), *Comments of The Utility Reform Network on Southern California Gas Company and San Diego Gas & Electric Company's Risk Assessment and Mitigation Phase Submissions* (April 6, 2020) (TURN Comments) at 7.

20 Settlement Decision, Appendix A, at A-8 ("Identification of the Frequency of the Risk Event").

Topic	Party Comment	SoCalGas and SDG&E Response
Risk Spend Efficiency (RSE) Calculations	In the 2019 RAMP Report, RSEs were "not calculated for mandated activities without providing a justification."[21] RSEs must be calculated for all mitigations in the 2021 RAMP filing[22] and a ranking of all mitigations by RSE must be provided.[23]	Although the Companies adopted a different approach in their 2019 RAMP Reports, the Companies have improved their process and reviewed all activities in their 2021 RAMP Reports and performed an RSE and/or evaluated the feasibility of doing so. Where performing an RSE is infeasible (*e.g.*, no meaningful data or SME judgment is available), the Companies have provided an explanation. Further details are provided in Chapters SCG/SDG&E RAMP-A and C and the risk chapters.
Use of RSE High/Low Ranges	Not clear what added value the alternative ranges for RSEs bring; additional justification should be provided if this is kept in the 2021 RAMP filing.[24]	Alternative calculations for RSEs are not included in the 2021 RAMP Reports, as discussed in Chapter SCG/SDG&E RAMP-A.
Tranches	Sufficiently granular tranches were not provided in the 2019 RAMP Report.[25] Location specific risks were not adequately considered in the 2019 RAMP Report.[26]	As explained in Chapter SCG/SDG&E RAMP-A and shown in the risk chapters, the Companies have improved their process and incorporated more tranches, where appropriate, including location-specific tranches, in the 2021 RAMP Reports. Further details are provided in Section III below.
Alternatives	Part of the alternative mitigation analysis should be to demonstrate an	The Companies have improved their process in the 2021 RAMP

[21] TURN Comments (April 6, 2020) at 4-5; POC Comments (April 6, 2020) at 24 and 26-30; *see also* PCF Informal Comments (February 12, 2021) at 2-3, TURN Informal Comments (February 12, 2021) at 3-4.

[22] TURN Comments (April 6, 2020) at 4-5.

[23] POC Comments (April 6, 2020) at 30.

[24] MGRA Comments (April 6, 2020) at 4.

[25] TURN Comments (April 6, 2020) at 5; TURN Informal Comments (February 12, 2021) at 1-3.

[26] FEITA Comments (April 6, 2020) at 28-29.

Topic	Party Comment	SoCalGas and SDG&E Response
	effort to choose a project size that maximizes the RSE.[27] Meaningful mitigation alternatives were not provided in the 2019 RAMP Report; alternatives should be analyzed in the planning process so that the most safety results are achieved.[28]	Reports, as follows: Each RAMP risk chapter presents two alternative mitigation plans that it considered, consistent with the Commission requirements in the Settlement Decision. RSE values were calculated and reviewed for alternatives. Although the alternatives were dismissed, an explanation is provided regarding why.
Discounting Costs	Costs should be discounted at the weighted average cost of capital (WACC); adjusting costs for inflation is not the same as discounting.[29]	In the 2019 and 2021 RAMP Reports, the Companies presented costs in base year (2020), constant dollars. This means that all costs are expressed in the most recent year's recorded dollars. No discounting is needed to get costs back to today's dollars, consistent with the GRC presentation. As discussed in Section III below, the Companies continue to evaluate applying a formal discount rate, such as the WACC, to all costs in the RSE calculation (including operations and maintenance costs that do not earn a rate of return at the WACC). The Companies will provide an update in the Test Year (TY) 2024 GRC.
Baseline	The baseline for risk reduction calculations in the 2021 RAMP Reports should be the risk levels at the end of 2023. [30]	As discussed in detail in Section III below, the baseline for costs and benefits should be consistent with the GRC framework, which requires the comparison point to be the last year of available recorded data.

27 MGRA Comments (April 6, 2020) at 10.

28 POC Comments (April 6, 2020) at 35.

29 TURN Comments (April 6, 2020) at 6-7.

30 TURN Informal Comments (February 12, 2021) at 4-5.

Topic	Party Comment	SoCalGas and SDG&E Response
Exclusion of Certain Internal Labor Costs	In order to accurately calculate RSEs, all benefits and costs must be incorporated, including internal labor costs.[31]	The Companies have improved their process for the 2021 RAMP Reports. As discussed in Chapter SCG/SDG&E RAMP-A, the RAMP Reports include estimates for internal labor costs, where applicable.
Data	In the 2019 RAMP Report, no explanation was provided for why there is scant or incomplete data and the criteria used to scale national data.[32] Utility-specific data was not included.[33]	The Companies perform a broad review of available data and seek ways to utilize that data – whether it be internal, state, or nationwide. The Companies have improved their process for 2021 RAMP Reports' risk chapters and their workpapers with additional discussion of data sources and how those sources are used. Data is addressed in more detail in Section III below.
Transparency	RAMP calculations are to be obtained from real, measurable data where possible.[34] Sources should be provided for estimates of LoRE and CoRE, and a justification for each estimate used should be included in workpapers.[35] Transparency requirements were not met in the 2019 RAMP Report.[36]	The Companies have improved their process in the 2021 RAMP Reports by providing in each risk chapter the type of data that was used (utility-specific, industry) and the estimates for LoRE and CoRE (both on a pre-mitigation and post-mitigation basis). Additional information, such as sources, are included in the workpapers.

31 TURN Comments (April 6, 2020) at 7-8.

32 POC Comments (April 6, 2020) at 24.

33 POC Comments (April 6, 2020) at 31-34; PCF Informal Comments (February 12, 2021) at 1-2. SoCalGas and SDG&E acknowledge that utility-specific data reflects the particular circumstances of the utility; however, PCF is incorrect that utility-specific data is required. The Settlement Decision states: "Data can include company-specific data or industry data. Whether use of a type of data is appropriate depends on the issue under consideration. If a utility relies on industry data, the utility will provide justification for applying those data to the specific circumstances of the utility." *See* Settlement Decision, Appendix A at A-18 ("Data Support and Data Sources").

34 MGRA Comments (April 6, 2020) at 2.

35 MGRA Comments (April 6, 2020) at 8.

36 POC Comments (April 6, 2020) at 16.

Topic	Party Comment	SoCalGas and SDG&E Response
Sensitivity Analysis for Wildfire	Use of expected value of the safety attribute may lead to underestimation of wildfire risks and underinvestment in wildfire prevention measures; 99th percentile values should be used for safety indices.[37]	SDG&E has improved its analysis for use in the 2021 RAMP Report with the development and implementation of its Wildfire Next Generation System (WiNGS) model. Additional information is discussed in Chapter SDG&E-Risk-1.
Treatment of Public Safety Power Shutoff (PSPS)	PSPS was treated only as a solution and not as a safety risk in the 2019 RAMP Report.[38]	SDG&E has improved its methodology and treatment of PSPS issues for the 2021 RAMP Report. As further discussed in SCG/SDG&E RAMP-A, SDG&E's Wildfire RAMP Chapter (SDG&E-Risk-1) consists of two components, the risk of wildfire and PSPS impacts.
Electric Grid Cybersecurity	Attempted attacks on the electric grid should be analyzed as an independent risk.[39]	The Companies have improved their process in the 2021 RAMP Reports by performing separate scenario analyses on the gas and electric systems related to cybersecurity.
Climate Change	Climate change posed by SDG&E's and SoCalGas's operations was not addressed as an individual risk chapter in the 2019 RAMP Report.[40]	The Companies have improved their presentation for the 2021 RAMP Reports. SoCalGas and SDG&E have incorporated additional information regarding climate change-related issues as a cross-functional factor (CFF) in these RAMP Reports (*see* SCG-CFF-2; SDG&E-CFF-2).
Adequate Staffing and	Understaffing is not included as a driver/trigger in the risk bow-tie for	The Companies have improved their presentation for the 2021

[37] MGRA Comments (April 6, 2020) at 4-6.

[38] MGRA Comments (April 6, 2020) at 11; *Post Workshop Comments of the Public Advocates Office on the Southern California Gas Company and San Diego Gas & Electric Company January 27, 2021 Pre-filing RAMP Workshop* (February 12, 2021) (CalPA Informal Comments) (February 12, 2021) at 1.

[39] MGRA Comments (April 6, 2020) at 12.

[40] POC Comments (April 6, 2020) at 20-21; *See* PCF Informal Comments (February 12, 2021) at 4, FEITA Comments (April 6, 2020) at 18, CalPA Informal Comments (February 12, 2021) at 1.

Topic	Party Comment	SoCalGas and SDG&E Response
Human Performance	any of the RAMP risks in the 2019 RAMP Report.[41] Human error and a discussion about personnel competency are missing from the 2019 RAMP Report.[42]	RAMP Reports by addressing Workforce Planning / Qualified Workforce issues as a CFF in these RAMP Reports (*see* SCG-CFF-7; SDG&E-CFF-8). Training to minimize human error is discussed in the Incident Involving an Employee risk chapters (*see* SCG-Risk-5, SDG&E-Risk-8).
Safety Management Systems (SMS) and Process Safety	SMS, process safety, management of change (MOC), and incident investigations should be discussed in the RAMP.[43]	SMS, including process safety, MOC, and incident investigations, is addressed as a CFF in these RAMP Reports (*see* SCG-CFF-6; SDG&E-CFF-7) and is also discussed as integral to SoCalGas's and SDG&E's safety culture in SCG RAMP-D and SDG&E-RAMP-D.
Overpressure Events, the Low Pressure System, and Gas Quality	Overpressure events and the low pressure system appear to be missing from the 2019 RAMP Report. Gas quality and contamination should be more thoroughly discussed.[44]	Activities to mitigate overpressure events are included in these RAMP Reports in SoCalGas's and SDG&E's RAMP risk chapters of Incident Related to the High Pressure System and Incident Related to the Medium Pressure System (*see* SCG-Risk-1, 3; SDG&E-Risk-3, 9). Overpressure issues are not always called out in mitigations, but apply to several activities in those chapters.
Reliability Items	Reliability of supplies (*i.e.*, availability of spare parts) and compressor stations should be discussed.[45]	The Companies have improved their presentation for the 2021 RAMP Reports. For certain RAMP risks, an execution constraint driver was added to the

41 I.19-11-010 (cons.), *Comments of Utility Workers Local Units No. 132, 483 and 522 ("Utility Workers" or "UWUA") on 2019 RAMP Report of Southern California Gas Company* (April 6, 2020) at 12.

42 FEITA Comments (April 6, 2020) at 11-12 and 17.

43 FEITA Comments (April 6, 2020) at Sections 7-8, 8-9, 20-21.

44 FEITA Comments (April 6, 2020) at Sections 10-11, 12-16.

45 FEITA Comments (April 6, 2020) at 18-19.

Topic	Party Comment	SoCalGas and SDG&E Response
		risk bow tie to address reliability of supplies. Compressor station reliability is discussed in SoCalGas's and SDG&E's Incident Related to the High Pressure System risk chapters (see SCG-Risk-1; SDG&E-Risk-3) and SoCalGas's Incident Related to the Storage System risk chapter (*see* SoCalGas-Risk-4).
System Visibility	Gas and electric system visibility through the supervisory control and data acquisition (SCADA) network should be discussed.[46]	The Companies have improved their presentation for the 2021 RAMP Reports. Foundational Technology Systems, including SCADA, are addressed as a CFF in these RAMP Reports (*see* SCG/SDG&E-CFF-4).

The feedback received by parties influenced SoCalGas's and SDG&E's approach on these 2021 RAMP Reports, as noted above and discussed in Chapter SCG/SDG&E RAMP-A. Lessons learned from the input received is also addressed in Section III, *infra*.

B. Other Utility RAMP Filings

SoCalGas and SDG&E also reviewed the RAMP proceedings of PG&E and SCE to prepare their respective RAMP Reports. Consistent with the Commission's goal of increasing efficiency by moving toward standardizing the organization and format of RAMP submissions,[47] the Companies evaluated each IOU's organization of its RAMP risk chapters and adopted a similar structure for purposes of consistency.

In addition to striving for unity in the structure of their RAMP Reports, the Companies also considered the unique elements contained in the other IOU RAMP reports and adopted similar approaches, where appropriate. For example, PG&E introduced in its 2020 RAMP Report the concept of cross-cutting factors. SoCalGas and SDG&E further built upon this concept to create their volumes of Cross-Functional Factors, or CFFs. As stated in Chapter

46 FEITA Comments (April 6, 2020) at 28.

47 *See, e.g.*, D.20-01-002 (the Rate Case Plan Decision) at 3 (establishing workshops to further explore "[s]tandardizing the organization and format of GRC and RAMP filings").

SCG/SDG&E RAMP-A, CFFs are safety-related initiatives that impact several of SoCalGas's and SDG&E's RAMP risks.

PG&E used non-linear scaling functions in its multi-attribute value function (MAVF),[48] and received comments criticizing this approach.[49] SCE used a combination of linear and non-linear scaling functions.[50] SoCalGas and SDG&E monitored the RAMP proceedings of the other utilities and elected to use linear scaling functions in their Risk Quantification Framework. The Companies' lessons learned from other aspects of PG&E's and SCE's RAMP proceedings, such as additional granularity of tranches, RSE calculation, and accounting for the risk of PSPS impacts (as well as intervenor feedback), are noted in Table 1.

III. RAMP MATURITY AND ENHANCED RAMP TO GRC INTEGRATION CONSIDERATIONS

SoCalGas and SDG&E continue to improve their risk quantification methods. The 2021 RAMP Reports demonstrate improvement through the introduction of new attributes in the Risk Quantification Framework (for the first time in the State), additional granularity, the calculation of more RSEs (including for many mandated programs), and the introduction of CFFs. However, the Companies strive for continuous improvement. Accordingly, the Companies identify additional lessons learned for consideration in future RAMP submissions below. Although many of these must be addressed as longer-term goals, SoCalGas and SDG&E are beginning to plan for such efforts. The Companies also address any remaining parties' comments that were not incorporated into the 2021 RAMP Reports below, in accordance with the 2019 RAMP Decision.

Many of the lessons learned discussed in this Section stem from the Companies' belief that RAMP and GRC filings should be consistently presented to better align with and connect the information presented in the RAMP, GRC, and accountability reporting processes. The RAMP and GRC processes are not distinct; rather, they are part of the GRC process. This is evident as

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[48] A.20-06-012, *Application of Pacific Gas and Electric Company (U39M) to Submit Its 2020 Risk Assessment and Mitigation Phase Report* (June 30, 2020) at 4 and Attachment A, Chapter 3.

[49] A.20-06-012, *Safety Policy Division Safety Evaluation Report on PG&E's 2020 Risk Assessment and Mitigation Phase (RAMP) Application* (November 25, 2020) at 15-17.

[50] I.18-11-006, *Southern California Edison Company's 2018 Risk Assessment and Mitigation Phase Report* (November 15, 2018) at 1-36 (Selection of Scaling Functions).

the final step in the RAMP process is for a utility to integrate RAMP results into its GRC application.[51]

It is also consistent with the Commission Staff proposal put forth in the S-MAP OIR to "[m]atch RAMP information to the subsequent GRC."[52] This means that the years presented in GRCs should be the basis for the RAMP filings and the GRC ratemaking principles should likewise apply. For example, a utility should begin with the years that will be forecasted in the subsequent GRC and provide estimates for the same years in the RAMP filing. In addition, the comparison points (for costs and benefits) should be consistent with the requirements set forth in the Rate Case Plan for GRCs; mainly to begin with the last year of recorded information and develop estimates from that "baseline." Similarly, with respect to RSE calculations, costs should be expressed in a consistent manner with how such costs will be presented in GRCs, and risk reduction benefit assumptions should be those the utility is comfortable defending with supporting testimony in the GRC. Rather than taking one approach for RAMP and a different approach for the GRC, consistency should be pursued. This principle of consistency between RAMP and GRC filings runs through many of the items discussed below.

A. Use of Frequency

The Settlement Decision defines frequency as "the number of events generally defined per unit of time," and notes that "[f]requency is not synonymous with probability or likelihood."[53] As explained by MGRA, "frequency can represent multiple events per year."[54] Likelihood, however, is "quantified as a number between 0% and 100% (where 0% indicates impossibility and 100% indicates certainty). The higher the probability of an event, the more certain we are that the event will occur."[55] MGRA explains when commenting on the difference between frequency and likelihood:

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51 D.14-12-025 at 42.

52 R.20-07-013 and D.20-01-002, *CPUC Consolidated Workshop Presentation* Slide 9 (Workshop held on February 9, 2021) (*available at* https://www.cpuc.ca.gov/uploadedFiles/CPUC_Website/Content/Safety/Risk_Assessment/SMAP/SMAP_Tr_3_RCP_Wrkshp_4_Presentation%20--%20FINAL.pdf).

53 D.18-12-014, Appendix A at A-2.

54 MGRA Comments at 6 (April 6, 2020) (citation omitted).

55 D.18-12-014, Appendix A at A-2.

> The probability and the frequency are the same for small values but begin to deviate as the frequency approaches 1 event per year. The probability becomes effectively equal to 1.0 (100%) for larger expected values per year. For example, if we expect 100 dig-ins per year then it is virtually certain that at least some dig-ins (the risk event) will occur during the course of the year.[56]

TURN opposed the Companies' use of frequency, stating that it is not compliant with the Settlement Decision because likelihood is needed to calculate the Likelihood of a Risk Event or LoRE.[57] The Companies disagree. The Settlement Decision specifically permits the use of frequency in calculating pre-mitigation risk scores at the risk level, and therefore, use of likelihood also creates a disconnect in the approach with respect to pre-mitigation LoRE.[58] And, as MGRA comments, "SDG&E's method does effectively represent risk reduction, since it effectively handles the case of multiple risk events per year."[59] The Companies suggest the parties further explore the use of frequency and likelihood in the S-MAP OIR.

B. Baseline for Risk Reduction Activities

There have been discussions on what the "baseline," or comparison point, should be when calculating risk reduction benefits and RSEs. TURN's informal comments on the Companies' pre-filing 2021 RAMP workshop initially suggested that the baseline for risk reduction calculations in the 2021 RAMP Reports should be the level at the end of 2023. This is because the revenue requirement from the last General Rate Case is authorized through 2023, and the Test Year 2024 General Rate Case will establish the revenue requirement for years 2024 through 2027.[60] TURN claimed that risk reduction benefits would be double counted with those supposed to be achieved by the last GRC cycle, if this were not done. TURN further comments that "Rows 10 and 11 of the Settlement… require that data reflecting past results 'must be supplemented by SME judgment that takes into account the benefits of any mitigations that are expected to be implemented prior to the GRC period under review in the RAMP submission.'"[61]

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[56] MGRA Comments (April 6, 2020) at 7.

[57] TURN Comments (April 6, 2020) at 7.

[58] D.18-12-014, Appendix A at A-8 – A-9 ("Identification of the Frequency of the Risk Event").

[59] MGRA Comments (April 6, 2020) at 7.

[60] TURN Informal Comments (February 12, 2021) at 4-5.

[61] TURN Informal Comments (February 12, 2021) at 5.

The Companies initiated follow-up discussions on this topic with SPD and jointly with SPD and TURN. Through these discussions, the Companies believe that TURN is conflating the GRC cycles (*i.e.*, the years for which revenue requirement is authorized in a previous GRC) with the required framework for proposing forecasted costs (which are then used to establish the authorized revenue requirement in the next GRC). The Companies understood TURN's initial suggestion to be that the baseline for these 2021 RAMP Reports should be the end of 2023 and the Companies should forecast the years 2024-2027. This suggestion would have the Companies forecast the years of the TY 2024 GRC cycle in which revenue requirement will be authorized. In further informal discussions, the Companies came to understand that TURN is most interested in incorporating baseline RAMP benefits for the year 2023, compared to TY 2024 forecasts. The Companies disagree with TURN's position, as discussed below, because: (1) using a forecasted baseline to analyze other forecasts is illogical; (2) the Settlement Agreement must be read within the context of the Commission's GRC Rate Case Plan; (3) there is no double counting of costs or risk reduction benefits under existing Commission-adopted processes; and (4) selecting a "correct" baseline is not defined or prescribed by the Settlement Agreement, as TURN suggests.

Generating a Forecast on Top of a Forecast is Illogical.

To incorporate risk reduction benefits through 2023, as TURN suggests, the Companies would first need to take its current risk scores and somehow determine a methodology to reflect risk scores at the end of 2023. One way to do this would be to utilize the Companies' estimates in these RAMP Reports through 2023 and assume the risk reduction benefits associated with these forecasted activities are realized. The result would be lower risk scores as the starting point. However, this is illogical for several reasons.

First, 2023 has not yet occurred. Designating a future year as the baseline would unnecessarily insert uncertainty and assumptions into the analysis by basing a forecast on a forecast, with little to no value. On top of this, future forecasts would be compared against this future baseline. *Second*, as the Commission has recognized, issues arise during GRC cycles that may require a utility to re-prioritize funding to address immediate needs.[62] Reflecting reductions in risk scores before the years have occurred runs the risk of not accurately crediting (or benefiting) the correct risks based on actual events. *Third*, risks generally increase over time if

[62] *See, e.g.*, D.20-01-002 at 38 ("The Commission has always acknowledged that utilities may need to reprioritize spending between GRCs.").

mitigations are not performed. Each year, for example, assets and systems age, vegetation grows, and there are increased threats (for example, emerging cybersecurity threats) on our systems. Accordingly, risk reduction benefits cannot be realized without also recognizing the increased risk that may occur due to the passage of time.

In addition to the foregoing, performing RSEs in the manner dictated by TURN would create no apparent benefit, because changing the baseline would not likely change the relative rankings of RSEs. Simply, risk reduction compares a new risk score (LoRE x CoRE) with a mitigation to the prior risk score without the mitigation. The RSE then divides this change in risk score by the cost of the mitigation. To determine this new risk score (*i.e.*, the post-mitigation risk score), SoCalGas and SDG&E calculate a new LoRE and CoRE for the given program. This new LoRE and CoRE isolate the risk reduction benefit for that program. Therefore, the comparison point or baseline is irrelevant so long as it is consistently applied (*i.e.*, a new LoRE and CoRE compared to the same baseline LoRE and CoRE).

Contrary to TURN's suggestion of starting the analysis for risk reduction with a forecasted, future baseline, the Rate Case Plan *requires* the use of recorded data as the starting point for baseline comparisons.[63] In these RAMP Reports, the Companies use 2020 as the "baseline," which is the last year of recorded data available at the time of the instant Applications,[64] as further discussed below.

The Settlement Agreement Must Be Read within the Context of the Commission's GRC Rate Case Plan.

The Settlement Agreement's language referencing the "GRC period under review in the RAMP submission" must be interpreted within the context of the Commission's Rate Case Plan. It does not exist in a vacuum. The RAMP is the first phase of the GRC; and therefore, the RAMP Reports must be developed in such a way that they may be integrated into the GRC. From the Companies' perspective, the GRC period that is reviewed in the RAMP must align with the period reviewed in the GRC – *i.e.*, the years that the Companies will forecast in their GRC applications, which will be used to evaluate the test year revenue requirement. In this case, the

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63 *See* D.07-07-004, Attachment A, at A-31.

64 The Companies' risk score calculations were performed throughout August 2020 to February 2021, using the most recent set of historic data available up to that time frame. The Companies used the most recent available data, but not all data for each risk was available to the same time frame, therefore risks were scored using data up through a time period between 2019 and 2020.

GRC forecast years are 2022-2024.[65] The Companies will file their TY 2024 GRC Applications by May 15, 2022, pursuant to D.20-01-002. Accordingly, the Companies will use 2021 as a base year in the GRC (their last historical year of data prior to filing), upon which forecasts will be developed for the years leading up to the test year, 2024. Because the RAMP is filed one year before the GRC, the last year of recorded data is 2020, making that the base year or baseline for RAMP.

Using the same forecast years in both the RAMP and the GRC is also consistent with another example from the Settlement Agreement, Row 28, which requires a Step 3 supplemental analysis in the GRC based on threshold amounts for a three-year cumulative total for capital programs and a test year amount for expense programs, for the "CPUC jurisdictional *forecast cost of the program in the GRC*."[66]

From the Companies' perspective, the years 2022-2024 is the only possible "GRC period under review in the RAMP submission" for this proceeding.[67] This is because a smooth integration of RAMP into GRC requires that the comparison used for cost and benefit information should match between both proceedings. It would be illogical to compare risk reduction benefits shown in a forecasted baseline of 2023 in the RAMP filing to a 2021 GRC baseline. The result would be, among others, that the risk reduction benefits being reviewed and considered in the GRC would be compared to a different year than those included in the RAMP.

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[65] The Companies' use of a 2021 base year and 2022-2024 forecast years for their GRC presentation follows the Commission's established standard requirements for GRC presentations in the Rate Case Plan. The standard requirements include providing the last year of historical data at the time a GRC application is submitted, called the "base year" and forecasting "with evaluation of changes up to and including the test year." *Id*. For the Test Year 2024 GRC, SoCalGas and SDG&E will provide a historical base year of 2021 (because the GRC application will be filed by May 15, 2022) and forecast the years are 2022-2024.

[66] D.18-12-014, Appendix A, at A-14 – A-15 ("Step 3 Supplemental Analysis in the GRC") (emphasis added).

[67] The Companies understand that the topic of baseline and whether it should be a defined term in the lexicon is currently in scope for the open S-MAP OIR. *See* R.20-07-013, S-MAP OIR Scoping Ruling at 4-5 and 6 (Tracks 1 and 3). Any adjustments to the Companies' approach, if necessary, should be made in future filings.

There is No Double Counting of Risk Reduction Benefits.

As shown above, TURN's argument that because the Companies have been authorized a revenue requirement through 2023, the RAMP analysis should begin with 2024[68] is not supported by the GRC framework. TURN, however, claims that its proposed baseline is necessary to avoid double counting of risk reduction benefits.[69] On the contrary, the Rate Case Plan requires each GRC cycle to start with recorded information regardless of the amounts previously authorized, which does not create double counting in GRC forecasting. Any realized efficiencies or new ways of doing business are included in the history and rolled into the next GRC.

For example, the Commission generally examined costs as well as gained efficiencies for the Companies' programs shown in the TY 2019 GRC presentation only through the test year, 2019 (*i.e.*, the Commission evaluated programs for years 2017-2019).[70] The RAMP programs were similarly evaluated for the same years, 2017-2019. And in the next TY 2024 GRC, cost levels (including realized efficiencies) for the 2022-2024 programs will be evaluated, for the first time, to set future funding.[71] Thus, neither the GRC framework nor the Companies' RAMP presentation results in an overlap of program year evaluation nor a double-counting of costs.[72] And the same is true for risk reduction benefits; no double counting of realized risk reduction benefits is created by using a historic RAMP base year.

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68 TURN Informal Comments (February 12, 2021) at 5.

69 TURN Informal Comments (February 12, 2021) at 5.

70 D.20-01-002 at 8. The Rate Case Plan's requirement to use the last recorded year of data as a GRC baseline allows for the extensive review of programs by the Commission and parties for the years that are forecasted in GRCs (to set test year revenue requirement levels), while post-test year funding is established through a mechanism based on escalation factors.

71 The purpose of the evaluation of programs in a GRC, in accordance with the Rate Case Plan, is to provide levels for future funding. *See Id.*

72 Any concern of double-counting benefits is also alleviated by the additional oversight created by the Commission's reporting requirements. In D.14-12-025, the Commission created two accountability reports, the Risk Spending Accountability Report and Risk Mitigation Accountability Report to provide the opportunity to review spending and benefits after work is completed. Currently, only the Risk Spending Accountability Report has been implemented. However, the Risk Mitigation Accountability Report implementation is an open item in scope of the open S-MAP OIR (*see* Section III.D below).

Selection of a "Correct" Baseline Is Not Prescribed by the Settlement Agreement, as TURN Suggests.

Finally, selecting a baseline is not defined or mentioned in the Settlement Agreement, nor is the selection of a "correct" baseline prescribed by the Settlement Agreement, as TURN suggests. The first mention of "baseline" in the context of RAMP proceedings is in D.14-12-025, which requires RAMP filings to include, among other things, "A description of the controls *currently in place*, as well as the 'baseline' costs associated with the current controls."[73] The Commission's "currently in place" language is consistent with the Companies' understanding that the term "baseline" relates to programs that currently exist, for which there are known data, rather than a forecasted "baseline" year in the future. The Companies are unaware of any Settlement Agreement requirement or Commission decision that is inconsistent with their understanding of D.14-12-025's language.

C. Validation of Data and Assumptions

Quantitative risk analysis relies heavily on data. Therefore, the ability to locate and use meaningful data will always be a factor in risk analysis. Although many data sources are available for a wide array of uses, it is uncommon to find data that is precisely what is needed at a particular point or for a particular use. The Companies are proactive in their efforts to learn and obtain relevant data and to pivot to adapt to future needs for new and advanced data.

SoCalGas and SDG&E believe granular and robust data sets are needed to evaluate a program's effectiveness as well as to meet evolving Commission reporting requirements. In the wildfire space, extensive reporting requirements already exist and are becoming more rigorous. The Companies expect that with the implementation of the Risk Mitigation Accountability Report, which is a topic in scope of the pending S-MAP OIR,[74] additional data and validation will be required.

In an effort to improve data collection,[75] SoCalGas and SDG&E are developing processes to confirm that risk reduction metrics are understood, tracked, repeatable, and producing results. The intent is to validate, upon look-back, if risk reduction was achieved.

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[73] D.14-12-025 at 32 (emphasis added).

[74] *See* S-MAP OIR Scoping Ruling at 8 (Phase II, Track 1, x, "Risk Mitigation and Accountability Reports (RMAR)").

[75] D.16-08-018 at 146 and 193 (Conclusions of Law [COL] 38).

D. Equivalences Between Attributes in Risk Quantification Framework

The Settlement Decision requires that when building an MAVF, each attribute should reflect its relative importance to other attributes in the value framework. This is done "based on the relative value of moving each attribute from its least desirable to its more desirable level,"[76] creating equivalencies between attributes. As shown in Table 1, TURN disagrees with the Companies' preliminary equivalencies based on TURN imputing the statistical value of life and finding the values were beyond those utilized by federal agencies.[77]

SoCalGas and SDG&E did not develop their Risk Quantification Framework to imply a statistical value of life, nor should it be utilized for that purpose. Rather, the Companies constructed their Risk Quantification Framework in accordance with the six principles outlined in the Settlement Decision, which do not require equivalencies to be based on a statistical value of life.[78] Moreover, the Commission is considering whether to adopt a risk tolerance standard as a statewide issue in the ongoing S-MAP OIR.[79] SoCalGas and SDG&E agree that this issue has RAMP implications for all IOUs and should be considered and determined uniformly for all IOUs. We look forward to discussing this issue in the S-MAP OIR.

E. Granularity and Tranches

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."[80] The Companies complied with this requirement by subdividing their assets and systems to align with how the assets and systems are managed, as discussed below.

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76 Settlement Decision, Appendix A at A-6 (MAVF Principle 6 – Relative Importance).

77 TURN Informal Comments (February 12, 2021) at 5-6.

78 *See* Settlement Decision, Appendix A at A-5 – A-6.

79 *See* Rulemaking (R.) 20-07-013, *Assigned Commissioner Scoping Memo and Ruling* (November 2, 2020) (S-MAP OIR Scoping Ruling) at 7-9.

80 D.18-12-014, Appendix A at A-11 ("Definition of Risk Events and Tranches").

In the 2021 RAMP Reports, the Companies subdivided assets and systems in four ways. *First*, risk events themselves are already subdivided. For example, SoCalGas and SDG&E consider high pressure (HP) gas assets to have different risks than medium pressure (MP) gas assets. One way to demonstrate the difference in these risk profile (but not the approach used by the Companies) would be to first identify a mitigation to a risk that involves the entire gas system and to then create a tranche for the high pressure assets and a different tranche for the medium pressure assets. The result would be: Control 1; Control 1-T1 (HP), Control 1-T2 (MP). Alternatively, the Companies could first create the subdivision by risk profile and then identify a mitigation (which is the approach used by the Companies). The result would be Control 1 in the HP risk and Control 1 in the MP risk. Both approaches result in the exact same level of analysis but the mitigation with the "T" in its ID Name appears to be tranched, and the one without a "T" in its ID Name does not appear to be tranched. The Companies consider the results of both methods to be tranches.

Second, SoCalGas and SDG&E identify tranches for the risk event that are applicable to the entire risk. Expanding on the previous example, the Companies' respective high pressure pipelines traverse locations that are classified as either High Consequence Area (HCA) locations or non-HCA locations. In many cases, a mitigation on high pressure pipeline is the same regardless of its location (HCA versus non-HCA), but the risk profile of that mitigation is different because of the pipeline's location (HCA versus non-HCA). Continuing the first approach (not used by the Companies) in the previous example, the mitigation Control 1-T1 (HP) would now be tranched again, with the result being Control 1-T1-T1 (Gas pipeline-HP-HCA) and Control 1-T1-T2 (gas pipeline-HP-non-HCA). Continuing the approach used by the Companies, the results are Control 1-T1 (HP pipeline-HCA) and Control 1-T2 (HP pipeline - non-HCA). The mitigations in SDG&E's Wildfire risk for High Fire Threat District tiers could be used as another example.

Third, another way to achieve tranches is to identify separate programs for different assets. In the Companies' respective risks for Excavation Damage (Dig-In) on the Gas System, programs are presented in a manner that separates the difference in risk profiles for dig-ins on the high pressure system compared with the medium pressure system. In this example, programs are given the nomenclature Control 1 (HP) and Control 2 (MP). They could have equivalently been called Control 1-T1 (Dig-in – HP) and Control 1-T2 (Dig-in – MP). As another example, the

Companies typically develop programs associated with a specific asset, such as a distinct program for hotline clamps and lightning arresters in SDG&E's Wildfire risk or piping in vaults in SDG&E's Incident Related to the Medium Pressure System. Moreover, for circumstances where various inspections have differing cycles, such inspections are represented as separate programs, as seen in SoCalGas's Incident Related to the Medium Pressure System for its pipeline monitoring activities.

Fourth, in addition to subdividing assets or systems through separate risks, locations applicable to the risk, and program development, the Companies further subdivide assets and systems when different risk profiles exist for an activity. For example, as seen in SoCalGas's RAMP risk chapter of Incident(s) Related to the Medium Pressure System, SoCalGas subdivided its Distribution Integrity Management Program into a vintage integrity plastic plan and a bare steel replacement program to capture the different risk profile of the different types of material. Similarly, in SDG&E's Electric Infrastructure Integrity risk chapter, SDG&E subdivided its distribution overhead switch replacement program into the following types of switches: SCADA, gang, and hook to capture the different risk profiles of each type of switch.

These four ways of tranching within the Companies' respective 2021 RAMP Reports align with how the assets and systems are managed, consistent with the Settlement Decision. SoCalGas and SDG&E strive for additional granularity of tranches when feasible and when doing so reflects how SoCalGas and SDG&E manage their assets or systems; however, a number of challenges persist. Practically speaking, providing risk analysis at granular levels presents challenges. Locational differences, for example, may result in different risk profiles, or tranches, for certain risks as discussed above. However, the Companies generally do not track costs by location. Accordingly, to perform this or a similar breakdown, assumptions must be made. To accommodate the granularity of tranches for future GRCs and accountability reports, SoCalGas and SDG&E are looking into potential changes to their accounting practices to track cost information in this manner, so that the data and assumptions associated with tranches are repeatable. The Companies will continue to strive for greater granularity in their tranching as appropriate in future RAMP Reports.

F. Risk Reduction and RSEs

As explained in Chapter SCG/SDG&E RAMP-A, in these 2021 RAMP Reports, the Companies reviewed all current and newly planned activities in the RAMP risk chapters to evaluate the usefulness of performing an RSE, and included an RSE value when meaningful data or SME opinions are available. Activities without an RSE value include an explanation. This approach addresses feedback received on the Companies' 2019 RAMP Reports that the Companies should provide RSE values for mitigations performed to maintain compliance with state and federal mandated requirements, as shown above in Table 1.

The Companies are gaining more practice in quantifying risk reduction, building on the development of these Reports. Nonetheless, estimating risk reduction can be a thought-provoking, theoretical practice. Subject matter experts are often perplexed with how exactly to quantify the benefits of a given program that, in many instances, is a longstanding best practice. For example, how much risk is reduced by performing pipeline patrols, or administering locate and mark training, or continuing a contractor oversight program?

Further, estimating risk reduction requires data to yield sound results. When data is available, less subjectivity is applied. Absent data, however, SMEs are asked to use their judgment, as required by the Settlement Agreement. The Settlement Agreement states:

> All estimates should be based on data whenever practical and appropriate. However, the available data should not restrict the application of the risk assessment methodologies. SME judgment should be used if the methodologies require use of data that is not available. Over time, SME judgment should be increasingly supplemented by data analysis as the methodologies mature.[81]

However, the Settlement Agreement does not require the Companies to guess or make things up when no SME judgment is available. Many times, particularly when no utility-specific or industry data exists, SMEs may not have a basis for knowing the amount of risk reduction provided by a mitigation or control, and providing a data point would require guesswork, rather than judgment. Despite these facts, parties have argued that if needed, utilities are absolutely required to guess as part of creating an RSE, and to state in their RAMP filings that they have little to no confidence in the "guesses."[82] The Companies disagree that providing an RSE based on guesswork is required by the Settlement Decision or would be useful to the Commission. Moreover, Rule 1.1 of the Commission's Rules of Practice and Procedure requires parties before the Commission to never "mislead the Commission or its staff by an artifice or false statement of

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81 D.18-12-014, Appendix A at A-18 ("Data Support and Data Sources").

82 *See* TURN Informal Comments (February 12, 2021) at 3-4.

fact or law." The Companies believe that presenting RSEs without any basis in fact or judgment has the potential to mislead.

Where RSEs are unavailable for a particular activity in the 2021 RAMP Reports, SoCalGas and SDG&E provide an explanation for why the RSE is unavailable, consistent with the Safety Policy Division's guidance in PG&E's 2020 RAMP proceeding[83] and discussions at SoCalGas's and SDG&E's pre-filing workshops. The Settlement Decision does not require forced production of an RSE where only guesswork, and no data or SME judgment, exists.

How to express a "risk score" also presents philosophical questions. Quantitative risk analyses use many methods to evaluate the seriousness of a risk, and those methods can vary depending on circumstances. At times, one might want to know the likelihood of a large event occurring or the worst expected impact over a 20-year span of time. Both of those questions require other methodologies than those used in the current RAMP to create a risk score. Those other methodologies could also be useful to communicate the reasons why the utilities chose the risk-reducing activities that they did. RSEs are just one piece of information that could help explain the efficacy of a risk-reducing activity.

G. Discounting of Costs

The Settlement Decision requires calculation of an RSE as follows:

> RSE should be calculated by dividing the mitigation risk reduction benefit by the mitigation cost estimate. The values in the numerator and denominator *should be present values* to ensure the use of *comparable measurements* of benefits and costs.[84]

The GRC Rate Case Plan also requires the use of comparable values in an IOU's GRC request, as follows: "All data for expenses shall be stated in recorded dollars and dollars inflation adjusted to a constant base year."[85] In other words, all costs in the GRC are presented in base year dollars to reflect a single year's dollars, without adjustment for escalation. The Companies believe that the "comparable measurements" and "present values" language in the Settlement Decision is consistent with the Rate Case Plan's requirement to present all costs in base year,

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[83] A.20-06-012, *Safety Policy Division Staff Evaluation Report on PG&E's 2020 Risk Assessment and Mitigation Phase (RAMP) Application* (November 25, 2020) at 5 ("SPD recommends PG&E and all IOUs provide RSE calculations for controls and mitigations or provide an explanation for why it is not able to provide such calculations.").

[84] D.18-12-014, Appendix A at A-13 ("Risk Spend Efficiency (RSE) Calculation") (emphasis added).

[85] D.89-01-040, Appendix A at A-31.

constant dollars.[86] Thus, the Companies' 2019 RAMP Report stated all costs in today's (base year) dollars, consistent with GRC filings, in compliance with the Settlement Decision's requirement to ensure comparable measurements. No further discounting is needed.

TURN, however, provided its view that all costs should be discounted at the weighted average cost of capital (WACC), on the grounds that escalation and discounting are different.[87] The Companies revisited this topic in preparing their 2021 RAMP Reports and agree with TURN that escalation and discounting are different concepts. While the Companies are not opposed to the concept of discounting, TURN's suggestion to discount all costs at the WACC does not represent differences in utility costs. For example, O&M costs are different from capital costs. One such difference is that O&M expenditures do not earn a rate of return. Therefore, it may be inaccurate to discount O&M costs at the WACC. Prior to the implementation in a RAMP or GRC filing, questions should be addressed as to the types of costs subject to discounting. The Companies maintain that their use of base year, constant dollars is appropriate and consistent with the Settlement Decision and the Rate Case Plan; however, additional discussion of discounting costs could be further discussed with interested stakeholders in the S-MAP OIR.

H. Pre-filing Workshops

As mentioned above, SoCalGas and SDG&E held three workshops/working group sessions prior to filing their 2021 RAMP Reports. PG&E similarly held several workshops/working group sessions prior to their 2020 RAMP Report submittal. SoCalGas and SDG&E found these public forums valuable and appreciate parties' investment of time and feedback. During the Companies' final public workshop, some participants expressed the view that the workshops were perfunctory and held only because they were procedurally mandated, and that the utilities had not expressly committed to incorporate recommendations from the parties into their final RAMP submissions.

As summarized in this Chapter and demonstrated throughout their Reports, SoCalGas and SDG&E have carefully evaluated and considered the oral and written feedback provided by parties. At the time of the pre-filing workshops, however, the Companies could not commit to which recommendations would be incorporated because the 2021 RAMP Reports were still

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86 Generally, present value is a financial calculation that discounts a future stream of cash flows to today's dollars to account for the time value of money.

87 TURN Comments (April 6, 2020) at 6.

being developed or doing so would require undoing substantial work on fundamental issues that were already foundational components of the Reports. The utilities need time to develop large, complex filings such as the RAMP Reports. The Settlement Decision requires utilities to host one pre-filing RAMP workshop to gather input from stakeholders "to inform the determination of the final list of risks to be included in the RAMP."[88] More than one pre-filing workshop should not be required if it results in misaligned expectations and does not benefit the process.

IV. CONCLUSION

The lessons learned offered by SoCalGas and SDG&E are intended to be a constructive representation of the RAMP process and how to improve future filings. SoCalGas and SDG&E welcome lessons learned by others to improve the process.

88 Settlement Decision, Appendix A at A-10 ("Risk Selection Process for RAMP").