

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Application of SAN DIEGO GAS & ELECTRIC
COMPANY (U 902 M) for Review of its Safety Model
Assessment Proceeding Pursuant to Decision 14-12-025.

Application No. 15-05-____
(Filed May 1, 2015)

**PREPARED DIRECT TESTIMONY OF
JORGE M. DASILVA
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

May 1, 2015



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1 As stated in Decision (“D.”) 14-12-025, adopted in the Risk Framework OIR (“OIR
2 Decision”):²

3 *The purpose of the S-MAP is to allow the Commission and parties to examine,*
4 *understand, and comment on the models that the energy utilities plan to use to*
5 *prioritize risks and to mitigate risks. The other purpose of the S-MAP is to allow the*
6 *Commission to establish the guidelines and standards for these models.*

7 To fulfill those purposes and in compliance with these Commission directives, my
8 testimony discusses the topics below, which appear in the following sections:

9 II. SDG&E’s risk management processes are evolving and will continue to
10 evolve.

11 III. The implementation of SDG&E’s risk management processes will follow a
12 similar trajectory as the evolution and creation of SDG&E’s exemplary safety
13 culture.

14 IV. SDG&E’s processes for identifying and evaluating risk follow the methods
15 adopted in International Organization for Standards (“ISO 31000”) and the
16 approaches proposed by Cycla in Pacific Gas and Electric Company’s 2014
17 GRC.

18 Finally, my testimony contains some recommendations and conclusions:

19 V. SDG&E will be able to complete its RAMP filing using the policies, methods,
20 tools and practices in place or under development.

21 VI. The Commission should continue to promote risk management practices.

22 SDG&E is prepared through a series of workshops and webinars to explore our and
23 other utilities risk evaluation and risk prioritization processes. In the workshops, SDG&E
24 will discuss the models, tools, and algorithms used by SDG&E for risk management
25 purposes.

26 In addition to my testimony and in support of this Application, SDG&E provides
27 illustrative examples as to how it applies its risk management models and tools for two
28 principal risks:

- 29 • Wildfires discussed by witness Mason Withers, and
30 • Cybersecurity discussed by witness Scott King.

² D.14-12-025, issued on December 9, 2014, at p. 21.

1 The rest of my testimony addresses SDG&E’s risk management practices, how
2 SDG&E identifies and evaluates risks within our business, progress toward the first RAMP
3 filing, and recommendations regarding future development of risk management practices.

4 SDG&E’s approach in this S-MAP, as discussed above, is consistent with the
5 Commission’s directives in the OIR Decision. Specifically, the OIR Decision states that the
6 additional risk-related framework and parameters, which includes the S-MAP, “will result in
7 additional transparency and participation on how the safety risks for energy utilities are
8 prioritized by the Commission and the energy utilities, and provide accountability for how
9 these safety risks are managed, mitigated and minimized.”³ The OIR Decision further
10 advises that the IOUs’ S-MAP filings “shall contain a description and the applicable
11 information as to how each utility assesses the risks to safety associated with its system and
12 services, and the tools or activities that it plans to use to manage, mitigate, and minimize
13 such risks.”⁴ In this Application, SDG&E provides relevant examples (i.e. Wildfire and
14 Cybersecurity) as well as appendices attached hereto to provide transparency with regard to
15 its risk-based decision-making planning and processes.

16 To better understand the risk terminology used throughout this testimony, please see
17 Appendix I, SDG&E’s Risk Lexicon.

18 **II. SDG&E’S RISK MANAGEMENT PROCESSES ARE EVOLVING AND WILL**
19 **CONTINUE TO EVOLVE**

20 Consistent with our historic commitment of evaluating and mitigating risks, to the
21 public and our employees and evolving our safety practices, SDG&E is implementing new
22 risk management practices. Specifically, SDG&E has identified the following five evolving
23 aspects of risk management (“Five Foundations”) that are in the process of being
24 implemented in 2015:

- 25 1. Risk Management Governance;
- 26 2. Increased Risk Management Guidance;
- 27 3. Risk Management Framework;
- 28 4. Risk Taxonomy; and
- 29 5. Quantification of Risks and Key Risk Indicators.

³ *Id.*, at p. 3.

⁴ *Id.*, at p. 30.

1 Each of these Five Foundations is discussed in more detail below. SDG&E believes that
2 evolution is imperative to ensure continuous and sustainable improvement. As noted earlier
3 and based on our experience with creating an exemplary safety culture, we believe our risk
4 management processes must evolve to benefit from what we learn as we implement the
5 Commission's risk management objectives.

6 The Commission too has recognized the evolutionary nature of risk management
7 processes. Over the last three years, the Commission and the California Legislature have
8 determined that there is a need for California utilities to enhance the safety of the respective
9 utility's operating systems for the public and employees. On March 5, 2012, the
10 Commission began an important dialogue when Mr. Paul Clanon, former Executive Director
11 of the Commission, sent a letter to Pacific Gas and Electric Company's ("PG&E") regarding
12 the need to incorporate a system-wide assessment of public and employee safety in PG&E's
13 2014 GRC.⁵ The letter was preceded and followed by a number of pieces of legislation,
14 including California Senate Bills 699, 705 and 900, all of which envisioned a regulatory
15 system where public and employee safety was explicitly considered by the Commission in
16 ratemaking proceedings, specifically GRCs. All of these efforts culminated in the Risk
17 Framework OIR⁶ and the OIR Decision, which implements the S-MAP process. The
18 Commission noted in the OIR Decision:⁷

19 *We recognize that the development of uniform and common standards is likely to take*
20 *some time, and may not be accomplished in the first S-MAP. That is because each*
21 *energy utility may be developing or using different methods for assessing, managing,*
22 *and mitigating their risks. Commission staff and other parties interested in these*
23 *issues will need to analyze and understand each of the utility's modeling approaches*
24 *and their capabilities.*

25 The Commission and ISO 31000 recognize there will be different approaches to risk
26 management. ISO 31000 states:⁸

⁵ Letter from Executive Director Clanon, dated March 5, 2012.

⁶ R.13-11-006.

⁷ D.14-12-025, issued on December 9, 2014, at p. 26.

⁸ <http://www.iso.org/iso/home/standards/iso31000.htm>.

1 *Although this International Standard provides generic guidelines, it is not intended to*
2 *promote uniformity of risk management across organizations. The design and*
3 *implementation of risk management plans and frameworks will need to take into*
4 *account the varying needs of a specific organization, its particular objectives,*
5 *context, structure, operations, processes, functions, projects, products, services, or*
6 *assets and specific practices employed.*

7 Further, the Commission, intervenors and the California utilities will, through the S-
8 MAP process, be learning from each other. Therefore, we expect SDG&E's risk
9 management processes to continue to evolve over the next few S-MAP cycles.

10 **A. Risk Management Governance**

11 In July 2014, Diana Day, SDG&E's Vice President of Risk Management, submitted
12 testimony in SDG&E's currently pending GRC, Application ("A.") 14-11-003. In her
13 testimony, Ms. Day noted:⁹

14 *As our risk management practices grow and mature, we will strive to:*

- 15 • *Continue to include safety and security risk management as an integral part of key*
16 *organizational decision-making processes;*
- 17 • *Address risk in a more systematic, structured, transparent and timely manner;*
- 18 • *More closely integrate risk, asset and investment management; and*
- 19 • *More fully inform our risk, asset and investment management decisions with*
20 *qualitative and quantitative analysis.*

21 At the time Ms. Day submitted her testimony, SDG&E had established a risk
22 management Vice Presidency, an initial risk management governance structure (see Figure
23 1), and a risk management framework (see Appendix II). Since Ms. Day's testimony was
24 submitted, SDG&E has enhanced its risk management practices by continuing to implement
25 the Five Foundations.

26 **B. Increased Risk Management Guidance**

27 SDG&E has increased the guidance provided to risk owners and managers on the
28 implementation of its Risk Management framework. The guidance incorporates both formal

⁹ Testimony of Diana Day, Risk Management and Policy (SDG&E-02), submitted on November 14, 2014 in A.14-11-003, at p. DD-8.

1 documentation of it risk-informed planning process and informal meetings and discussions.

2 The formal documented elements of SDG&E’s risk management support SDG&E in:

- 3 a. Determining which safety and security related threats/hazards
- 4 may confront SDG&E.
- 5 b. Providing a model for evaluating each risk using a seven point
- 6 scale considering strength of risk controls, impacts and likelihood
- 7 of occurrence.
- 8 c. Evaluating risk mitigation alternatives.

9 **C. Risk Management Framework**

10 The purpose of the Risk Management framework is to establish SDG&E’s risk
11 management governance structure and assign roles and responsibilities to ensure the
12 company has a consistent and comprehensive approach to risk management. As noted above
13 SDG&E, has historically incorporated risk management into our decision making at all levels
14 of the organization. More recently, the risk governance structure has been created to begin to
15 formalize our long standing processes. Figure 1 below reflects the enhanced governance
16 structure:

17

1
2

FIGURE 1



3

D. Risk Taxonomy

4

5 SDG&E is moving towards a more structured approach to classifying risks and
6 mitigations through the development of its new risk taxonomy. The purpose of the risk
7 taxonomy is to define a rational, logical and common framework that can be used to
8 understand, analyze and categorize risks. The taxonomy assists in the integration of risk
9 management, asset management and investment planning. In addition, the taxonomy
10 clarifies who the risk owners are, it helps identify additional risks and links the risks and the
11 associated investments. Please refer to Appendix III for an overview of SDG&E's risk
12 taxonomy.

13

E. Quantification of Risks and Key Risk Indicators

14

15 As noted in Ms. Day's GRC testimony, SDG&E is committed to increasing the use of
16 quantification within its evaluation and prioritization of risks. In addition to existing
17 practices, SDG&E believes that there is value to identifying leading indicators of risk. The
18 leading indicators are known as the Key Risk Indicators ("KRIs"). The KRIs, when used,
19 can give an indication of a change in a particular risk whether a risk is increasing or
20 decreasing. For example, the Cybersecurity team has developed a set of KRIs to "measure
operational activity related to cybersecurity threats, susceptibility of technology assets, and

1 performance of core security control processes such as vulnerability management and
2 incident response.”¹⁰ The process of identifying and implementing KRIs will continue
3 beyond the current S-MAP.

4 The practices, tools, and structures implemented in 2015 referred herein as the Five
5 Foundations are, as Ms. Day indicated, part of our growth and maturing of our risk
6 management capabilities. We anticipate there will continue to be new evolving risk
7 management ideas, tools and concepts.

8 **III. THE IMPLEMENTATION OF SDG&E’S RISK MANAGEMENT**
9 **PROCESSES WILL FOLLOW A SIMILAR TRAJECTORY AS THE**
10 **EVOLUTION AND CREATION OF SDG&E’S EXEMPLARY SAFETY**
11 **CULTURE**

12 Utilities have traditionally focused on providing safe, reliable, and affordable service.
13 The increased focus the Commission is bringing to the management of risk, (i.e. the
14 implementation of the ISO 31000 risk management principles) will lead to new management
15 practices. For SDG&E, the evolving practices will include new governance structures,
16 policies, processes and tools. Undoubtedly, the implementation of additional risk
17 management principles will lead to changes in SDG&E’s culture. One example of a change
18 is an explicit discussion of risks across the SDG&E business units.

19 In the 1990s, SDG&E strengthened its safety management practices and culture
20 through the introduction of behavior-based safety training, referred to herein as Safety First.
21 Although the Company’s leadership recognized that making changes to enhance safety
22 practices would take time, from the beginning of the effort, they also understood that success
23 had to be measured by the creation of an exemplary “Safety First” culture. As a result of the
24 initiative, the Company’s safety metrics improved over the last twenty years moving from
25 fourth quartile to first quartile performance. This was recognized by the CPUC Safety and
26 Enforcement Division in its previously cited report on the current SDG&E GRC

27 Application:¹¹

28 *Evaluations and measures by independent third parties show that SoCalGas’ and*
29 *SDG&E’s safety results compare favorably to those of peer utilities and companies.*

¹⁰ Testimony of Scott King, at p. 5.

¹¹ SED Report, at p. 40.

1 *Notably, the results of recent safety surveys conducted by the National Safety Council*
2 *indicate SoCalGas and SDG&E are in the 93rd percentile for safety culture.*¹²

3 *Another common benchmark would be statistics on Reportable incidents required by*
4 *the federal Occupational Safety and Health Administration (OSHA). According to*
5 *Sempra both of its utilities have documented improvements in OSHA reporting*
6 *results. Over the past sixteen years the OSHA recordable incident rate at SoCalGas*
7 *has improved from 8.0 in the mid-1990s to 3.5 in 2013. At SDG&E, there has been a*
8 *similar improvement trend, with the rate declining from 8.6 to 2.31 in 2013.*¹³

9 SDG&E’s continued commitment to improving safety performance is evident in the
10 2014 results that reflect a continued decline in OSHA recordable rate to 2.20.¹⁴

11 There are a number of important lessons learned from the Safety First initiative that
12 SDG&E will utilize as it implements the Commission’s new risk management practices.

13 These include the following:

- 14 • It takes time to implement sustainable change. While SDG&E started the
15 Safety First initiative in the 1990s, safety metrics did not improve
16 immediately. Achieving safety metrics necessitated behavioral and cultural
17 changes, which required training and on-going feedback. Similarly,
18 enhancing SDG&E’s risk management practices will require changes to
19 existing processes and implementation of new training, which will take time.
- 20 • Not all of the practices and policies will improve results. Today’s safety
21 practices are not the same ones that SDG&E implemented in the 1990s. We
22 learned that some practices and policies do not create the desired results so
23 changes have to be made. Similarly, not all of the risk management processes
24 or practices will permanently improve or maintain safety risks. Innovation in
25

¹² As quoted from “National Safety Council Safety Barometer, March 2013, SoCalGas and SDG&E.”

¹³ Of non-fatal work-related injuries and illnesses.

¹⁴ SDG&E Safety Results 2014.

1 and continuous improvement of risk management practices will need to be
2 encouraged.

- 3 • It takes commitment from everyone involved. Creating the Safety First
4 culture required SDG&E and union leadership, management, and front line
5 employees to be committed to improving safety. In order for the Commission
6 to achieve its risk management objectives, all parties – the Commission,
7 utilities, and intervenors – will have to be committed to the Commission’s risk
8 management objectives and to continuing to build their own risk management
9 capabilities.

10 **IV. SDG&E’S PROCESSES FOR IDENTIFYING AND EVALUATING RISK**
11 **FOLLOW THE METHODS ADOPTED IN INTERNATIONAL**
12 **ORGANIZATION FOR STANDARDS (ISO 31000) AND THE APPROACHES**
13 **PROPOSED BY CYCLA IN PACIFIC GAS AND ELECTRIC COMPANY’S**
14 **2014 GRC**

15 SDG&E has processes in place for identifying and evaluating risk. Figure 2 below
16 provides an overview of the process adopted for SDG&E’s risk management processes. The
17 process has six distinct steps:

- 18 1. Risk identification;
- 19 2. Risk analysis;
- 20 3. Risk evaluation and prioritization using a 7X7 matrix;
- 21 4. Mitigation plan development;
- 22 5. Risk-informed investment decisions and risk mitigation implementation; and
- 23 6. Monitoring and review.

FIGURE 2



2

3 The steps in the SDG&E process align with the recommendations in ISO 31000. That
 4 standard is produced by the International Standards Organization, and from the ISO
 5 website¹⁵, it is described thusly:

6 *ISO 31000:2009, Risk management – Principles and guidelines, provides principles,*
 7 *framework and a process for managing risk. It can be used by any organization*
 8 *regardless of its size, activity or sector. Using ISO 31000 can help organizations*
 9 *increase the likelihood of achieving objectives, improve the identification of*
 10 *opportunities and threats and effectively allocate and use resources for risk*
 11 *treatment.*

12 The ISO 31000 principles and guidelines provided the foundation on which SDG&E
 13 built its Enterprise Risk Management (“ERM”) process. The lexicon used by SDG&E is
 14 similar to that used ISO 31000 (See Appendix I).

15 In review of PG&E’s Test Year 2014 GRC, the CPUC commissioned Cycla
 16 Corporation to evaluate PG&E’s filing:

17 *The CPUC charged Cycla with evaluating the 2014 PG&E gas distribution GRC*
 18 *filing to determine how well it addresses the directive in the March 5 letter from Paul*

¹⁵ <http://www.iso.org/iso/home/standards/iso31000.htm>.

1 *Clanon. To fulfill this charge, we evaluated how well PG&E incorporated risk*
2 *characterization in selecting the set of safety improvements it proposes to undertake.*
3 *Cycla's primary focus was on determining how the utility's decision processes*
4 *incorporated an understanding of safety risk in deciding how best to improve the*
5 *safety of its gas distribution system through changes both to the pipeline system and*
6 *to how PG&E manages that system.*¹⁶

7 That report was published on May 16, 2013. The purpose of that report was to
8 ascertain the use of risk-assessment methodologies in the development and prioritization of
9 funding requests in the GRC. In its analysis, Cycla utilized the methods described by
10 ISO 31000.¹⁷

11 The Cycla Report¹⁸ includes the following 10 distinct elements, or 'sections.' These
12 are mapped to SDG&E's six steps in Table 1 below:

- 13 1. Identify the threats having the potential to lead to safety risk;
- 14 2. Characterize the sources of risk;
- 15 3. Characterize the candidate measures for controlling risk;
- 16 4. Characterize the effectiveness of the candidate risk control measures
17 ("RCMs");
- 18 5. Prepare initial estimates of the resources required to implement and maintain
19 candidate RCMs;
- 20 6. Select RCMs the operator wishes to implement (based on anticipated
21 effectiveness and costs associated with candidate RCMs);
- 22 7. Determine the total resource requirements for selected RCMs;
- 23 8. Adjust the set of selected RCMs based on real-world constraints such as
24 availability of qualified people to perform the necessary work;
- 25 9. Document and submit the General Rate Case filing, on which the CPUC
26 decides the expenditures it will allow, and, based on CPUC decision, adjust
27 the operator's implementation plan; and

¹⁶ Evaluation of PG&E's 2014 Gas Distribution GRC Filing, Cycla Corporation, May 16, 2013, at p. iv.

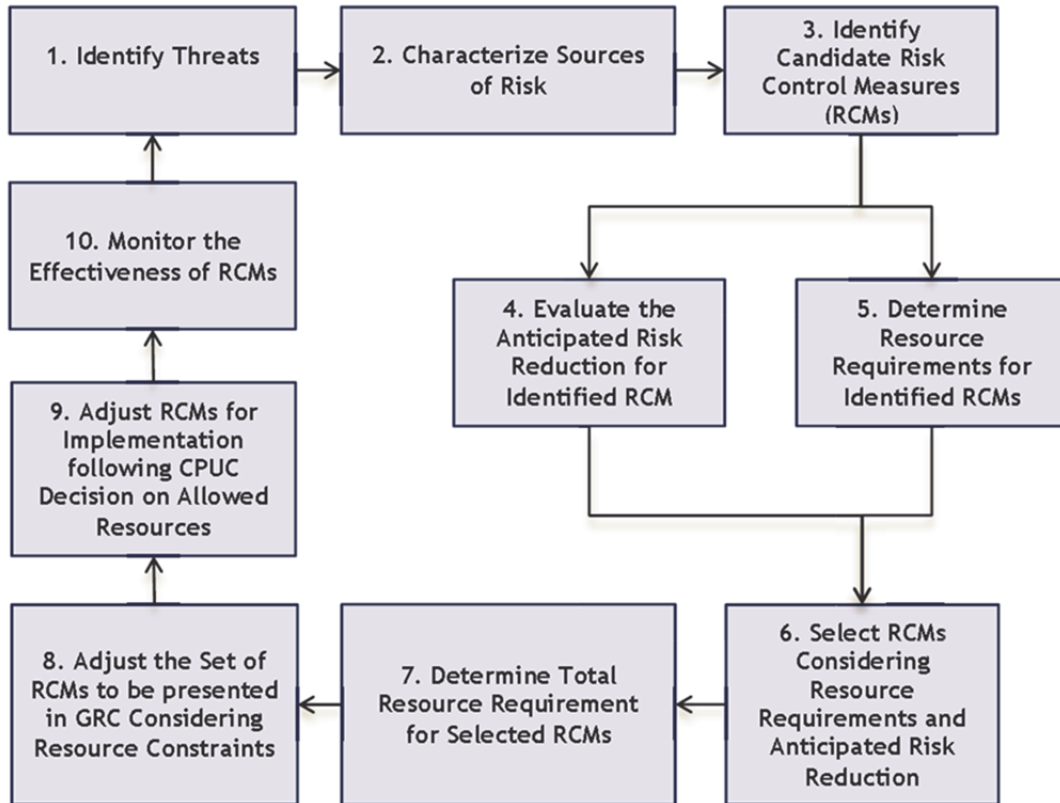
¹⁷ <http://www.iso.org/iso/home/standards/iso31000.htm>, at p. 11.

¹⁸ *Id.*

1 10. Monitor the effectiveness of the implemented RCMs and, based on lessons
2 learned, begin the process again.

3 A diagram of the above 10 steps is provided in Figure 3 below:
4

5 **FIGURE 3**



6
7

1 While the lexicon used by Cycla differs slightly from SDG&E’s lexicon, the content is
2 largely aligned. Table 1 below compares the steps in the SDG&E model to Cycla model
3 sections.

Table 1	
Section in Cycla	Corresponding Risk Step in SDG&E
Section 1	1. Risk Identification
Section 2, Section 3	2. Risk Analysis
Section 4	3. Risk Evaluation & Prioritization
Section 5, Section 6	4. Risk Mitigation Plan Development & Documentation
Section 7, Section 8, Section 9 (only applicable is when GRC is being filed)	5. Risk Informed Investment Decisions and Risk Mitigation Implementation
Section 10	6. Monitoring and Review

4 The risk management processes applied by SDG&E are consistent with ISO 31000
5 and Cycla’s model. The mapping in Table 1 above comparing SDG&E’s processes with
6 ISO 31000 and Cycla’s model clearly demonstrates the alignment among all three
7 approaches and a high level of consistency in language used to describe the approaches.

8 Below is a description of SDG&E’s six-step process:

9 **1. Risk Identification**

10 Risk identification as defined by ISO 31000, is the process of finding,
11 recognizing and describing risks. It includes the identification of risk sources,
12 events, their causes and potential consequences.

13 On an annual basis, the ERM organization facilitates the enterprise risk
14 identification process through interviews and meetings with risk owners and
15 managers to review and discuss potential changes to SDG&E’s enterprise risk
16 registry.

17

2. Risk Analysis

Risk analysis as defined by ISO 31000, is the process to comprehend the nature of risk and to determine the level of risk. It provides a basis for risk evaluation and decisions about risk mitigation.

As stated in ISO 31000, risk analysis is undertaken with varying degrees of details depending on the risk and the availability of data and resources.

SDG&E utilizes a combination of qualitative and quantitative analyses to analyze its risks.

On an annual basis, the ERM organization facilitates a risk assessment session where risk owners discuss their risk analysis based on the information they have and the risk mitigations in place.

3. Risk Evaluation & Prioritization

Risk evaluation is the process of comparing the results of risk analysis against impact and likelihood dimensions.

The evaluation helps to differentiate risks from one another by gauging their frequency of occurrence against their potential impact.

SDG&E uses its 7x7 Risk Evaluation Framework (“REF”) to communicate risk portfolios and facilitate discussions around the prioritization of risks and mitigations.

On an annual basis, the ERM organization facilitates the risk prioritization session where risk owners discuss the relative ranking of SDG&E’s enterprise risks with senior management and achieve consensus around risk priorities.

4. Risk Mitigation Plan Development & Documentation

Based on the analysis and evaluation of risks, risk owners and managers develop and document risk mitigation plans to capture the state of the risk given current mitigations and any proposed additional mitigations.

On an annual basis, the ERM organization facilitates the risk mitigation planning session where risk owners present their key risk mitigation plans and alternatives considered to the senior management team and discuss the feasibility and prudence of those proposed plans.

1 This risk mitigation planning session helps shape SDG&E's priorities going
2 into the annual investment planning process and helps identify gaps and/or
3 areas of overlap in risk mitigation plans.

4 **5. Risk Informed Investment Decisions and Risk Mitigation**
5 **Implementation**¹⁹

6 As described in Jesse Aragon's 2016 GRC testimony, SDG&E's capital
7 planning process is the company's current process for prioritizing funding
8 based on risk informed priorities and input from operations. On an annual
9 basis, initial capital allocations begin with inputs from Functional Capital
10 Committees that are comprised of subject matter experts who perform high
11 level assessments of the capital requirements based on achieving the highest
12 risk mitigation at the lowest attainable costs. This process leads to a relative
13 ranking of projects. Each committee elicits broad input for developing each
14 function's capital plan and formulates a prioritized grouping of annual
15 spending requirements. These requirements are presented to the Capital
16 Planning Committee which is a cross-functional team representing each
17 functional area with capital requests. This committee reviews the spending
18 requirement submissions from all functional areas and cross-prioritizes
19 projects among the functional areas and establishes a final ranking of
20 proposed capital work. Projects are evaluated against priority metrics
21 including safety, cost effectiveness, reliability, security, environmental and
22 customer experience.

23 The Capital Planning Committee then presents its recommendations for
24 capital spending to the Executive Finance Committee which reviews the
25 recommendations and either approves the proposed capital funding allocations
26 or requests changes. Once the capital allocations are approved, each
27 individual operating organization is chartered to manage their respective
28 capital needs within the capital allotted by the plan. The real-time
29 prioritization of work within the context of the budget allocations is

¹⁹ SDG&E's risk-informed budgeting process is evolving and will be addressed in the RAMP. Accordingly, it is not discussed herein.

1 completed by the front-line and projects managers on an ongoing and
2 continuous basis.²⁰

3 Similar to SDG&E's risk evaluation processes, the SDG&E capital planning
4 process will also evolve as SDG&E endeavors to achieve the shared goal of
5 determining the risk reduction benefit per dollar invested. As SED has
6 stated:²¹

7 *Additionally, Sempra's method of using relative risk scores to*
8 *establish risk mitigation priorities should be considered an early*
9 *approach to risk evaluation – which may be further refined in*
10 *Commission consideration of Safety Model Assessment Proceedings*
11 *(SMAP) beginning in May 2015. Relative risk scoring can be useful for*
12 *prioritizing risks and informing the decision-making process. In and of*
13 *themselves, they do not define a level of acceptable or optimized risk*
14 *mitigation. SED expects that with subsequent rate cases, Sempra's risk*
15 *management approach will gain additional maturity, as reflected in*
16 *improvements in data collection capability, data quality, and use of*
17 *probabilistic models, with the long-term result that Sempra will*
18 *eventually migrate to an expanded quantitative risk assessment*
19 *approach.*

20 **6. Monitoring and Review**

21 Monitoring and review of all aspects of risk management supports SDG&E's
22 efforts at continuously improving its risk management framework.

23 Periodic reviews of the company's risk registry are performed to keep the
24 registry current and facilitate discussions on any emerging or new risks that
25 SDG&E could face.

26 Existing KRIs support the monitoring of the company's key risks and as
27 mentioned above, the process of identifying and implementing KRIs will
28 continue beyond the current S-MAP to improve this step of the process.

²⁰ Direct Testimony of Jesse S. Aragon, A.14-11-003, at p.2.

²¹ SED Report, at p. 45.

1 **V. SDG&E WILL BE ABLE TO COMPLETE ITS RAMP FILING USING**
2 **POLICIES, METHODS, TOOLS AND PRACTICES IN PLACE OR UNDER**
3 **DEVELOPMENT**

4 The OIR Decision²² mandates the Commission to hold two proceedings regarding
5 California utilities risk management practices. The first, S-MAP is a joint proceeding that
6 has been implemented to “(1) allow parties to understand the models the utilities propose to
7 use to prioritize the programs/projects intended to mitigate risks and (2) allow the
8 Commission to establish standards and requirements for those models.”²³ The second,
9 RAMP, is a pre-GRC proceeding “in which the utility presents the all (according to final
10 decision) asset-related risks for which the utility expects to seek recovery in the GRC. The
11 focus of at least the initial RAMP will be on asset condition and health and mitigating risks
12 to those assets.”²⁴

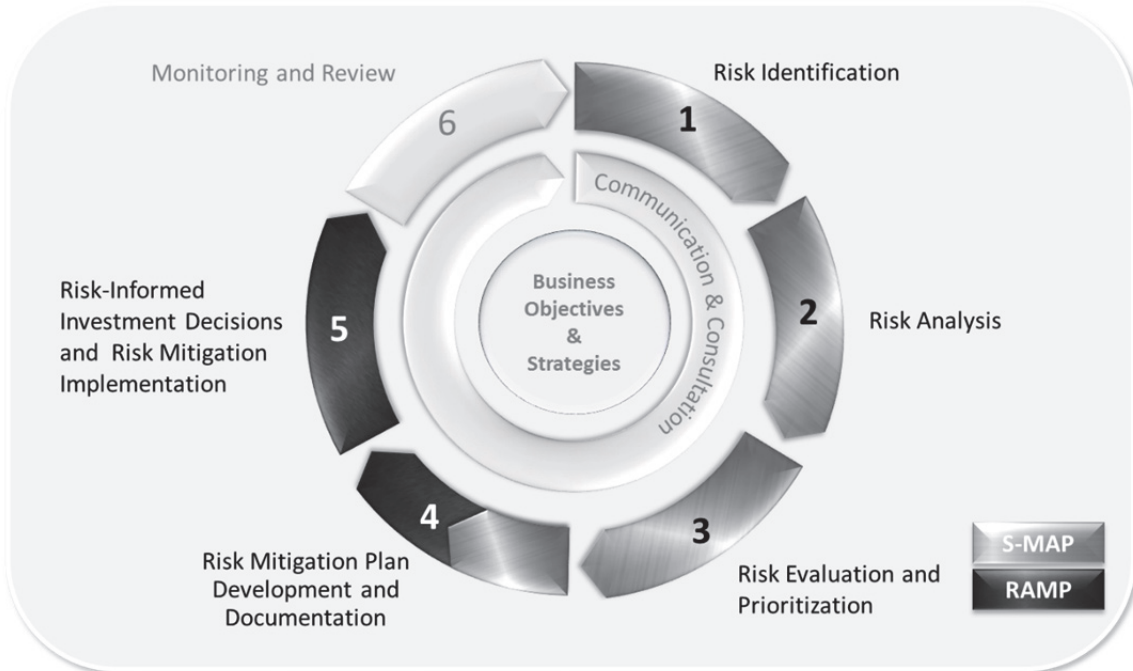
13 The RAMP will use the outputs from the S-MAP proceeding to determine which risk
14 mitigation efforts require financial or human resources. SDG&E will then use the decisions
15 emanating from the S-MAP proceeding to determine how resources, financial and human,
16 will be allocated to prioritize the funding of risk mitigation efforts. Figure 4 below reflects
17 how SDG&E has differentiated between the S-MAP and RAMP processes:
18

²² OIR Decision, at p. 9.

²³ Evaluation of PG&E’s 2014 Gas Distribution GRC Filing, Cyclo Corporation, May 16, 2013, at p. 12.

²⁴ *Id.*

FIGURE 4



2

3 As indicated in the OIR decision, the S-MAP filing is intended to focus on the
 4 policies, methods, models, and tools used by the California utilities to identify, analyze,
 5 evaluate, and prioritize risks. The S-MAP will also consider how a utility develops risk
 6 mitigation actions. The RAMP, in contrast, will address how risk mitigation efforts are
 7 funded and which efforts a utility proposes to implement to balance risk mitigation with rate
 8 affordability.

9 **VI. THE COMMISSION SHOULD CONTINUE TO PROMOTE RISK**
 10 **MANAGEMENT PRACTICES**

11 As I noted earlier in my testimony, the Commission is bringing an enhanced focus to
 12 risk evaluation and mitigation with its decision to require utilities to incorporate the
 13 mitigation of public and employee safety and security risks into GRC filings. The
 14 Commission, utilities and interveners have just embarked on this journey and parties are
 15 likely going to identify new approaches and innovative methods. As a result, SDG&E
 16 believes that in its decision-making, the Commission should:

- 17 1. Promote collaboration and learning among all of the parties. The
 18 enhanced risk management processes proposed by the Commission
 19 have already led to changes in the regulatory process - e.g., S-MAP
 20 and RAMP. The Commission, utilities, and interveners need to build

1 their risk management competencies to further address risk within the
2 new regulatory process. The Commission should, within its S-MAP
3 decision, allow all parties the time necessary to build the required
4 capabilities. Fostering collaboration will give the parties time to learn
5 from each other.

- 6 2. Determine the Commission's risk tolerance level. The historic
7 regulatory paradigm was, by design, an adversarial process where the
8 utilities proposed expenditures, the interveners challenged the
9 proposals on a least-cost basis, and the Commission weighed the facts
10 presented to arrive at a decision. In a risk-based regulatory paradigm,
11 a utility's risk tolerance may not be the same as interveners or the
12 Commission. The level of risk tolerance will have a direct effect on
13 proposed risk mitigation funding levels. As part of the S-MAP
14 process, the Commission needs to provide direction regarding its risk
15 tolerance level in order for the utilities to complete their RAMP filing.
- 16 3. Recognize that in order to maintain affordability, different levels of
17 risk require different levels of risk analysis and evaluation. As the
18 OIR Decision recognized, all of the parties have to balance
19 investments in risk mitigation with affordability.²⁵ In other words,
20 there is insufficient revenue to mitigate all risks to zero - as recognized
21 in the SED Report quoted on page JMD-1 above.²⁶

22 If the Commission requires all risks to undergo the same level of
23 analysis and evaluation, then costs to the ratepayer will have to
24 increase. In order to address affordability concerns, in its S-MAP
25 decision, the Commission needs to establish the different levels of risk
26 analysis and evaluation. For example, the level of analysis, evaluation
27 and, ultimately, investment required of SDG&E to address a wildfire
28 risk is potentially much greater than the failure of circuit breakers in a
29 distribution substation.

²⁵ OIR Decision, at p. 4.

²⁶ SED Report, at p. 9.

- 1 4. Allow for flexibility and continued innovation. As I have noted above,
2 the risk management processes, models, tools, and practices are going
3 to evolve. In its S-MAP decision, the Commission needs to ensure
4 each utility's risk management approaches are aligned with the
5 Commission's objective while not requiring the use of exactly the
6 same tools, models and approaches.
- 7 5. Assume that there will be changes and improvements in the methods
8 and tools used between the S-MAP proceeding and the RAMP filing.
9 SDG&E has committed in Ms. Day's GRC testimony to continue to
10 enhance our risk management practices. As I note above, SDG&E has
11 already made enhancements in our risk management practices since
12 the filing of our 2016 GRC, and we expect to continue to make
13 enhancements. Therefore, the approaches SDG&E has incorporated
14 into our S-MAP filing are likely to change before our RAMP filing.
15 The Commission will have to recognize this possibility in its S-MAP
16 decision.
- 17 6. As I mentioned early in my testimony, SDG&E has proposed
18 workshops to discuss SDG&E's tools, models and algorithms. More
19 specifically, SDG&E recommends that the Commission sponsor a
20 series of webinars or workshops for the utilities to present their models
21 and the associated algorithms. This will allow those interested in the
22 detailed workings of the models to fully investigate the mechanics of
23 the models without requiring those with less interest to participate.

24 Although the current consolidated SDG&E and SoCalGas GRC Applications²⁷
25 predated the OIR Decision, both utilities opted to proactively address the subject of risk in
26 their Applications anticipating that those issues would likely arise at the expectation of the
27 Commission during those proceedings. SDG&E and SoCalGas not only presented three
28 executive witnesses to specifically address risk policy in the case, but they also prepared

²⁷ A.14-11-003 - Application of San Diego Gas & Electric Company (U902M) for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2016 and A.14-11-004 - Application of Southern California Gas Company (U904G) for Authority to Update its Gas Revenue Requirement and Base Rates Effective on January 1, 2016. Per ALJ Wong's 12/26/2014 Ruling, A.14-11-003 and A.14-11-004 were consolidated.

1 discussions within relevant testimonies addressing risk, mapped major funding requests to
2 categories of risk previously utilized in the Risk Framework OIR ‘case studies’ and
3 workshops, and arranged witness meetings with members of the CPUC SED at their request
4 for the specific purpose of familiarizing SED with efforts to link risk management and
5 funding requests in the GRC. Those efforts and meetings culminated in the previously
6 mentioned SED Report.

7
8 **VII. CONCLUSION**

9 I have reached the following conclusions regarding the implementation of an
10 enhanced system of risk identification and evaluation:

- 11 a. SDG&E has been evaluating and managing risks for decades, and is currently
12 evolving to a more formalized and structured risk management framework.
- 13 b. The implementation of SDG&E's risk management processes will follow a
14 similar trajectory as the evolution and creation of SDG&E's exemplary safety
15 culture.
- 16 c. SDG&E's processes for identifying and evaluating risk follow the methods
17 adopted by the International Organization for Standards in ISO 31000 and the
18 approaches proposed by Cycla Consulting in Pacific Gas and Electric's 2014
19 GRC.
- 20 d. SDG&E's risk management processes are evolving and they will continue to
21 evolve.
- 22 e. SDG&E will be able to complete its RAMP filing using policies, methods, tools,
23 and practices in place and under development.
- 24 f. The Commission should continue to promote risk management practices.

25 This concludes my prepared direct testimony.
26

1 **VIII. WITNESS QUALIFICATIONS**

2 My name is Jorge M. Da Silva and I am employed by San Diego Gas & Electric
3 Company. My business address is 8335 Century Park Ct, San Diego, California 92123.

4 In November of 2014, I was appointed Director of Operations Risk for SoCalGas and
5 SDG&E. In this role I am responsible for overseeing operational risk management strategies
6 for both utilities.

7 I joined San Diego Gas & Electric in 1979 and have held various leadership positions
8 of increasing responsibility in Gas Operations, Electric Operations, Construction Services,
9 Project Management, Vegetation Management and Land Services.

10 I received a bachelor's degree in Business Management from the University of
11 Phoenix.

12 I have not testified previously before the Commission.

Appendix I

Risk Lexicon

Appendix I: Risk Lexicon

Risk Lexicon SDG&E/SoCal Gas	
Term	Definition
Alternative Analysis	Evaluation of different alternatives available to mitigate risk
Contingency Plan	A contingency plan prepares an organization to respond coherently to a risk event.
Enterprise Risk Management	Comprehensive approach to risk management that engages organizational systems and processes together to improve the quality of decision making for managing risks that may hinder an organization's ability to achieve its objectives
Event (or Outcome)	Occurrence or change of a particular set of circumstances
Frequency (or Likelihood)	Number of events or outcomes per defined unit of time
Impact (or Consequence)	Consequences of an event, incident, or occurrence affecting objectives
Impact Dimension	Areas of impact or consequence that events are evaluated across to determine the risk score of an event
Inherent Risk	Level of risk that exists without risk controls
Key Risk Indicators	Metrics used to provide an early signal of change in risk.
Mitigation	Measure or activity taken prior to the occurrence of an event, designed to reduce impact and/or frequency of the event
Residual Risk	Risk remaining after current controls
Risk	Potential for an adverse event that can impact company's ability to achieve its objectives
Risk Assessment Process (RAP)	Overall process of risk identification, risk analysis and risk evaluation
Risk Driver (or Risk Trigger)	Factor(s) that could cause risk to occur
Risk Evaluation Framework (REF)	The 7X7 matrix used to assess Consequence and Frequency of a risk.
Risk Manager	Person responsible for identifying, measuring and tracking risks for the BFA. Also responsible for the development and implementation of risk mitigation and contingency plans.
Risk Mitigation Plan	Collection of Mitigations
Risk Mitigation Planning Process (RMP Squared)	Includes Risk Mitigation Plan Development & Documentation and Risk Mitigation Planning Session.
Risk Mitigation Planning Session (RMPS)	A senior management team dialog session to discuss mitigation plans for key risks. For each key risk, the Risk Owner presents the mitigation plans to the senior management team for feedback.

Risk Lexicon SDG&E/SoCal Gas	
Term	Definition
Risk Owner	Person or entity that has been given the authority to manage or delegate to the appropriate risk manager a particular risk (or set of risks) and is accountable for doing so.
Risk Registry	Record of information about identified risks
Risk Score	Numerical representation of qualitative and/or quantitative risk assessment methodology
Risk Taxonomy	Comprehensive, common and stable set of risk categories that aid in risk identification process and facilitate aggregation across risks
Risk Identification	Process of finding, recognizing and describing risks
Risk Analysis	Process to comprehend the nature of risk and to determine the level of risk. Risk analysis provides the basis for risk evaluation and decisions about risk treatment. Risk analysis includes risk estimation.
Risk Evaluation	Process of comparing the results of risk analysis with risk criteria to determine whether the risk and/or its magnitude is acceptable or tolerable.

Appendix II

Enterprise Risk Management Framework

ENTERPRISE RISK MANAGEMENT FRAMEWORK

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Purpose

The purpose of this Enterprise Risk Management (“ERM”) framework is to establish SDG&E’s risk management governance structure and assign roles and responsibilities to ensure the company has a consistent and holistic approach to risk management.

As such, the key objectives of this framework are to:

- Describe the risk management governance;
- Demonstrate the integration of risk management into daily operations; and
- Outline the risk management process.

Risk Management Statement

Risk management at SDG&E is built on the company’s vision, mission and values and is a key enabler for the company to meet its strategic objectives and priorities.

SDG&E recognizes risk is an inherent element of all company operations. Hence, the company is committed to incorporating risk management principles and practices into its operations and making risk management an integral part of the company’s decision making, planning, communications, reporting and day to day operational processes.

To meet this commitment, all employees of SDG&E are responsible and accountable for managing risk to their best ability within their area of responsibility.

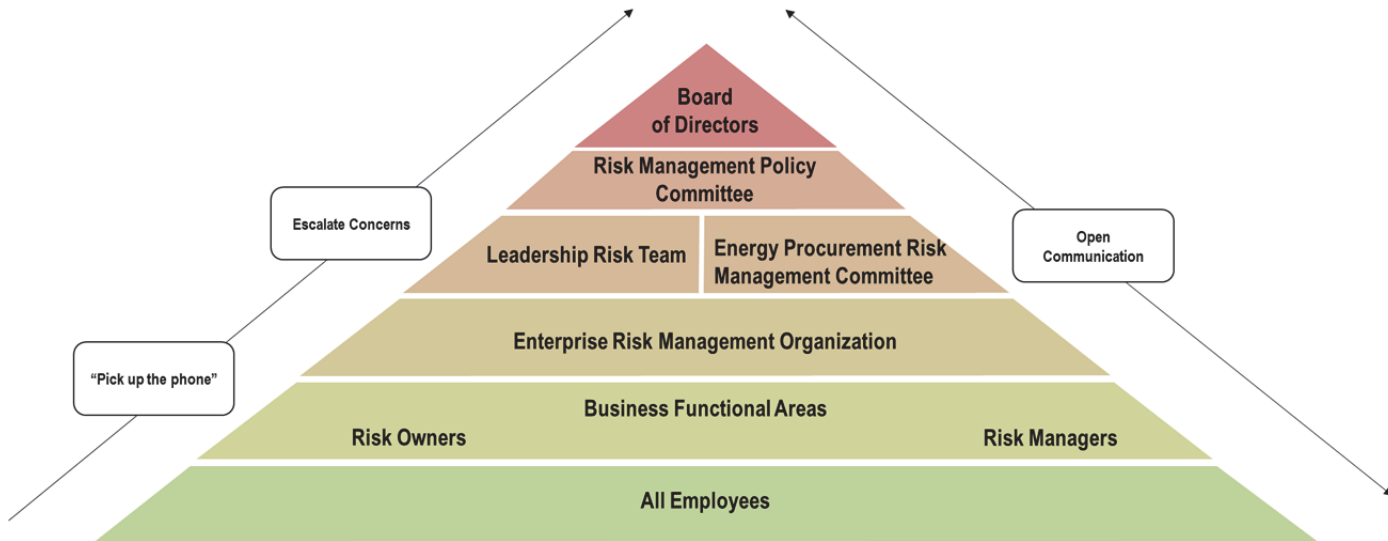
SDG&E recognizes that in addition to identified and known risks, risks can emerge at any given time that could significantly affect the company and hinder the achievement of its strategic objectives and priorities. Fostering a culture of open communications promotes transparency across the organization and allows the company to appropriately address emergent risks as they arise at any level in the company.

SDG&E’s risk management activities shall be performed in compliance with all applicable laws and regulations, and in a manner that ensures compliance with Sempra Energy’s Business Conduct Guidelines.

Governance

SDG&E’s Board of Directors (“Board”) is responsible for the oversight of the risk management process. The Risk Management Policy Committee (“RMPC”) supports the Board to provide oversight of the risk management policies, practices and adequacy of the risk management function.

Figure 1 Enterprise Risk Management Governance Structure



Roles and Responsibilities

The key roles and responsibilities of SDG&E’s ERM Organization are outlined below.

Board of Directors

The oversight responsibility for all risk management activity within SDG&E resides with the Board. The Board is responsible for approving the overarching framework for risk management.

Risk Management Policy Committee

Refer to the RMPC charter.

Leadership Risk Team

The Leadership Risk Team is comprised of officers and directors from all business functional areas. Their role is to:

- Lead periodic cross company dialogue on risk and mitigation;
- Ensure there is a holistic view of the Company’s portfolio of key risks; and
- Review and finalize the assessment of key risks and mitigation plans.

Energy Procurement Risk Management Committee

Refer to the SDG&E Market Activity and Credit Policy (“MACP”).

Enterprise Risk Management Organization

The ERM Organization facilitates and manages risk management tools and processes across the company. The ERM organization is responsible to:

- Facilitate and review the assessment of key risks;
- Develop and provide appropriate risk management tools;
- Facilitate and review the development of key risk mitigation and contingency plans;

- Maintain and update the enterprise risk registry;
- Manage enterprise risk management information system(s);
- Lead the development of risk metrics in collaboration with business functional areas;
- Assist the RMPC in fulfilling its responsibilities;
- Provide periodic updates to the RMPC, the Leadership Risk Team and Corporate senior management;
- Facilitate communications and share leading practices or lessons learned among various business functional areas and between SoCalGas and SDG&E;
- Monitor and communicate industry leading practices;
- Monitor, adjust and implement the Risk Management process.

Business Functional Area – Risk Owner

A Risk Owner is a person or entity that has been given the authority to manage, or delegate to the appropriate risk manager, a particular risk (or set of risks) and is accountable for doing so. The risk owner shall:

- Ensure risk assessments are properly conducted and documented by assigned risk managers;
- Oversee the development and implementation of risk mitigation and contingency plans;
- Review and approve the risk mitigation and contingency plan(s);
- Review and monitor effectiveness of risk mitigation and contingency plans;
- Report status of key risks to the Leadership Risk Team and RMPC as necessary;
- Champion risk communication within and across the organization.

Business Functional Area – Risk Manager

A Risk Manager is a person assigned by the risk owner to assess, mitigate and monitor risks for the business functional area.

The risk manager shall:

- Conduct and document risk assessments;
- Support the development of risk metrics;
- Utilize appropriate tools to assess, mitigate, monitor and report the risks associated with the BFA (e.g. use of risk metrics);
- Develop implement and update the business functional area’s risk mitigation plans;
- Develop and lead periodic review of contingency plans;
- Maintain consistent lines of communication with other risk managers across the organization;
- Report to risk owners on the effectiveness of risk mitigation and contingency plans.

All Employees

All employees of the company are responsible for implementing prudent and vigilant risk management practices within their areas of responsibility and reporting risks to their business functional area leads as they arise.

Process

SDG&E’s approach to risk management is built on principles and guidelines of ISO 31000 risk management standard. The key components of SDG&E’s risk management process as shown in Figure 2 are:

- Establishment of Organizational objectives and strategies
- Risk Assessment
 - Risk Identification
 - Risk Analysis
 - Risk Evaluation
- Risk Mitigation
 - Risk Mitigation Plan Development and Documentation
 - Risk-Informed Investment Decisions and Risk Mitigation Implementation
- Monitoring and Review

Figure 2 Risk Management Process



Appendix III

Risk Taxonomy

Appendix III: Risk Taxonomy

