

Company: San Diego Gas & Electric Company (U 902 M)  
Proceeding: 2019 General Rate Case  
Application: A.17-10-\_\_\_\_\_  
Exhibit: SDG&E-05

**SDG&E**

**DIRECT TESTIMONY OF OMAR RIVERA**

**(GAS SYSTEM INTEGRITY)**

**October 6, 2017**

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



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## SUMMARY

<b>O&amp;M</b>	<b>2016 (000s)</b>	<b>2019 (000s)</b>	<b>Change</b>
Non-Shared	151	958	807
Shared	0	600	600
<b>Total</b>	<b>151</b>	<b>1,558</b>	<b>1,407</b>

Gas System Integrity is responsible for a collection of key activities and programs that contribute to the ongoing vitality of San Diego Gas & Electric Company (SDG&E or Company) transmission pipeline operations and help SDG&E achieve the overarching objective to provide safe, clean, and reliable natural gas service at reasonable rates. Gas System Integrity works alongside with Gas Transmission, Gas Distribution and Storage operations by creating and issuing policies and standards that establish and validate compliance with applicable laws, regulations, internal policies, and best practices.

Southern California Gas Company (SoCalGas) and SDG&E take a shared-service approach to many natural gas pipeline operator responsibilities, especially in Gas System Integrity. The shared-service approach benefits both utilities and their ratepayers by enabling the utilities to pool their collective knowledge, experience, engineering expertise, and intellectual property. All the activities discussed in my testimony, either directly or indirectly, address potential safety and security risks while fostering continuous improvement. These activities are described in this testimony under the following broad categories or organizations:

- Gas System Integrity provides strategic direction and management of policies, procedures, and programs to comply with safety regulations, codes and best practices in an efficient and consistent manner.
- Public Awareness is a federally-mandated program established to educate the public, appropriate governmental organizations and persons engaged in excavation-related activities to mitigate safety and reliability risks by enhancing public awareness of pipelines and other natural gas facilities and communicating stakeholder roles relative to pipeline safety.
- Codes and Standards help the two utilities meet their regulatory obligations and allow for information exchange to enhance public and employee safety.

My testimony also sponsors closely-related activities and associated requests for the Gas Contractor Controls and Pipeline Safety and Compliance organizations within SDG&E:

- Gas Contractor Controls facilitates communications between the Company and key gas contractors to focus on safety, quality, compliance, and cost management. This is achieved through development and ownership of Company standards and forms related to construction inspection and reporting, contractor qualification process, cost approval and validation, construction fraud identification and reporting, and contractor performance tracking. Additionally, this area provides internal audit support, conducts contractor facility audits as part of the qualification process, and holds quarterly meetings with contractors to communicate key policies and facilitate two-way communications on topics of interest.
- Pipeline Safety and Compliance strives to exceed compliance with applicable pipeline regulatory and safety regulations by also encompassing non-regulatory approaches toward continuous improvement. This organization oversees a robust compliance system that demonstrates SDG&Es' commitment to pipeline safety and shapes essential enhancements for our employees, processes, and technologies.

All of the activities discussed in my testimony, either directly or indirectly, address potential safety and security risks.

In preparing the Test Year (TY) 2019 General Rate Case (GRC) forecast for this testimony, I reviewed historical spending levels and developed an assessment of future needs. Because of the mature nature of the activities that I am sponsoring, most of my forecasts rely upon a five-year (2012 through 2016) average. The five-year average was chosen because it best represents future expenses and because it captures the fluctuations that my witness area can experience. Where appropriate, certain incremental upward or downward adjustments have been identified and made to the five-year average. In total, SDG&E requests the California Public Utilities Commission (CPUC or Commission) adopt a TY 2019 forecast of \$1,558,000 for Gas System Integrity operations and maintenance (O&M) expenses, which is composed of \$958,000 for non-shared service activities and \$600,000 for shared service activities.

**SDG&E DIRECT TESTIMONY OF OMAR RIVERA**  
**(GAS SYSTEM INTEGRITY)**

**I. INTRODUCTION**

**A. Summary of Gas System Integrity Costs and Activities**

My testimony supports the TY 2019 forecasts for O&M costs for both non-shared and shared services for the forecast years 2017, 2018, and 2019, associated with the Gas System Integrity area for SDG&E. Table OR-1 summarizes my sponsored costs.

**Table OR-1**  
**San Diego Gas & Electric Company**  
**Test Year 2019 Summary of Total Costs**

<b>GAS SYSTEM INTEGRITY (In 2016 \$)</b>			
	2016 Adjusted- Recorded (000s)	TY 2019 Estimated (000s)	Change (000s)
Total Non-Shared Services	151	958	807
Total Shared Services (Incurred)	0	600	600
<b>Total O&amp;M</b>	<b>151</b>	<b>1,558</b>	<b>1,407</b>

SDG&E's philosophy is to provide safe, clean, and reliable delivery of natural gas to customers at reasonable rates. This commitment requires that SDG&E continue to invest in its employees, pipeline assets, and support services to mitigate risks associated with the safety of the public and employees; system reliability; and infrastructure integrity. Specifically, the activities discussed herein:

- maintain and enhance safety;
- reflect local, state, and federal regulatory and legislative requirements;
- maintain overall system integrity and reliability;
- respond to customer growth and continuous improvement;
- comply with franchise obligations; and
- maintain and strengthen a qualified workforce.

This testimony discusses non-shared and shared expenses in support of O&M functions for Gas System Integrity, Public Awareness, Codes and Standards, Gas Contractor Control, and

1 Pipeline Safety and Compliance. All costs in this testimony are shown in 2016 dollars, unless  
2 otherwise noted.

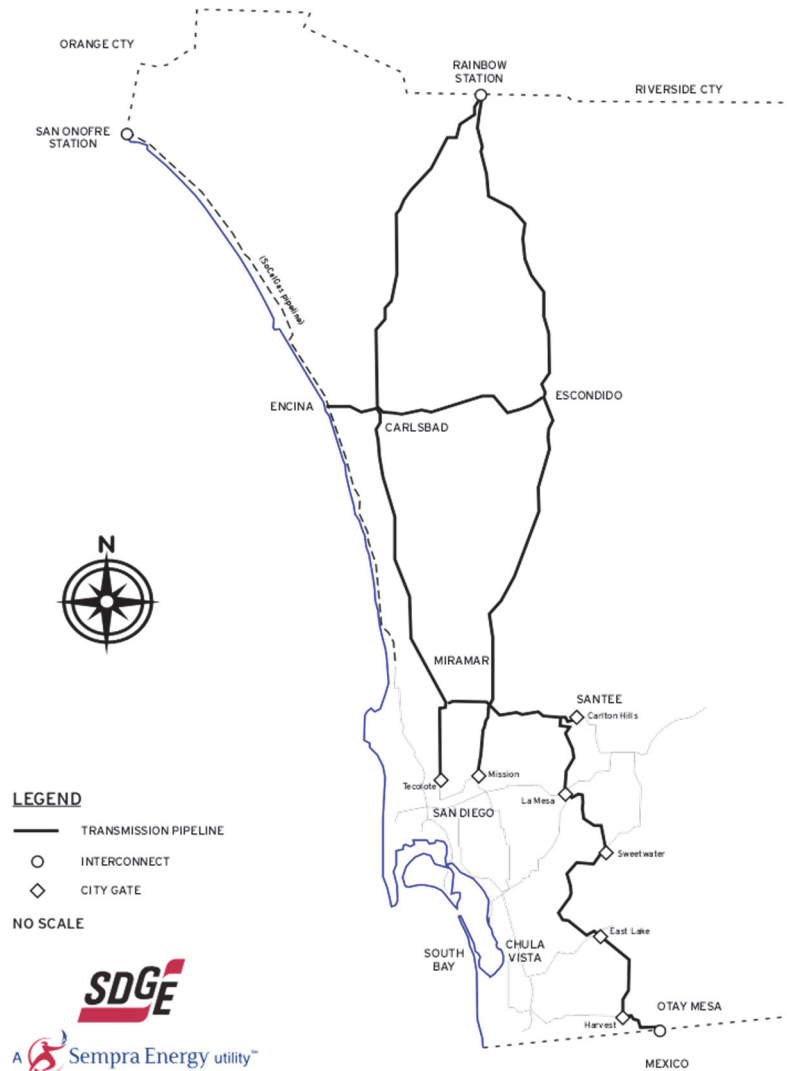
3 In addition to this testimony, please also refer to my workpapers, Exhibit SDG&E-05-WP  
4 (O&M), for additional information about the activities described herein.

5 Gas System Integrity is responsible for a range of key activities and programs that  
6 support the ongoing safety and reliability of the gas infrastructure of both utilities in an efficient  
7 and repeatable manner. Gas System Integrity works alongside with Gas Transmission, Gas  
8 Distribution, Storage, Gas Engineering, Major Projects, Pipeline Integrity, and Information  
9 Technology, among other internal business partners, by creating and issuing policies and  
10 standards that help establish and validate compliance with applicable laws, regulations, internal  
11 policies, and best practices.

#### 12 Gas System Overview

13 Gas Transmission operates and maintains approximately 175 miles of high-pressure  
14 pipeline and one compressor station (Moreno), as shown in Figure OR-1.

**Figure OR-1 - SDG&E Transmission System**



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3 SDG&E receives gas from SoCalGas at the San Diego/Riverside County border at  
 4 Rainbow, California and through various points of a pipeline that runs along the Orange County  
 5 and San Diego County coastline. SDG&E may also receive gas through an interconnection point  
 6 at Otay Mesa with the Transportadora de Gas Natural pipeline in Mexico.

7 SDG&E’s Distribution and Transmission operating units collectively operate  
 8 approximately 225 miles of pipeline defined as “transmission lines” under United States  
 9 Department of Transportation (DOT) regulations.<sup>1</sup> Of those 225 of DOT transmission miles, as  
 10 noted above, Gas Transmission operates approximately 166 miles of high pressure pipeline. The  
 11 remaining miles are high-pressure distribution pipelines operated by Gas Distribution.

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<sup>1</sup> 49 C.F.R. § 192.3.

1           The distribution system comprises approximately 14,148<sup>2</sup> miles of interconnected gas  
2 mains, services and associated pipeline facilities, and 873,000<sup>3</sup> customer meters in an area of  
3 over 4,100 square miles, in San Diego and southern Orange counties. Collectively, these  
4 components allow SDG&E to safely and reliably deliver natural gas from receipt point to  
5 customer. To continue to provide safe, clean, and reliable service, SDG&E must continue to  
6 make prudent investments in its infrastructure pursuant to applicable regulatory requirements.

7           My cost forecasts support the Company's goals of continuous improvement while  
8 providing safe, clean, and reliable delivery of natural gas to customers at reasonable rates, while  
9 mitigating risks associated with hazards to public and employee safety, infrastructure integrity,  
10 and system reliability.

11           Gas System Integrity is responsible for performing a range of activities that culminate in  
12 technical guidance to support, on a non-shared and shared basis, day-to-day functions for  
13 Pipeline Integrity, Gas Transmission, Gas Distribution, and Storage. These Gas System Integrity  
14 activities are described in this testimony under the categories of Gas System Integrity, Public  
15 Awareness, Codes and Standards, Gas Contractor Control, and Pipeline Safety and Compliance.

16           The Gas System Integrity, Public Awareness, Codes and Standards, Gas Contractor  
17 Control, and Pipeline Safety and Compliance organizations all work toward a common goal of  
18 continuous improvement while providing safe, clean, and reliable delivery of natural gas to  
19 customers at reasonable rates.

20           This testimony describes anticipated changes in operations, explains the basis for these  
21 changes, and includes projections for the resulting change in expenditures for each of the  
22 aforementioned areas.

23           My testimony also references the testimony of several other witnesses, either in support  
24 of their testimony or as referential support for mine. Those witnesses are Gina Orozco-Mejia  
25 (Exhibit SDG&E-04, Gas Distribution), Maria Martinez (Exhibit SDG&E-11, Pipeline Integrity  
26 for Transmission and Distribution), Diana Day and Jamie York (Exhibit SCG-02/SDG&E-02,  
27 Chapter 1: Risk Management and Policy and Chapter 3: RAMP to GRC Integration,  
28 respectively), Beth Musich (Exhibit SDG&E-06, Gas Transmission Operation), Deanna Haines

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<sup>2</sup> Total mileage that Gas Distribution operates including Distribution operated supply lines greater than 20% Specified Minimum Yield Strength (SMYS).

<sup>3</sup> See <http://www.sdge.com/aboutus>.



1 (Exhibit SDG&E-09, Gas Engineering), Christopher Olmsted (Exhibit SDG&E-24, Information  
2 Technology), and James Vanderhye (Exhibit SCG-34/SDG&E-32, Shared Services & Shared  
3 Assets Billing, Segmentation, & Capital Reassignments).

- 4 • Information Technology (IT) Capital Projects - Gas System Integrity sponsors  
5 projects that include IT technology solutions to meet business demand, which are  
6 therefore in support of the capital forecast of \$110,000 in 2017. This capital cost is  
7 for the SDG&E Gas Operations Performance Analytics Phase 3 Dashboard. Further  
8 discussion can be found in the Information Technology testimony of Chris Olmsted  
9 (Exhibit SDG&E-24).

10 **B. Summary of Safety- and Risk Assessment Mitigation Phase (RAMP)-Related**  
11 **Costs**

12 Certain costs supported in my testimony are driven by activities described in SoCalGas'  
13 and SDG&E's November 30, 2016 Risk Assessment Mitigation Phase (RAMP) Report.<sup>4</sup> The  
14 RAMP Report presented an assessment of the key safety risks of SoCalGas and SDG&E and  
15 proposed plans for mitigating those risks. As discussed in the Risk Management testimony  
16 chapters of Ms. Day and Ms. York (Ex. SCG-02/SDG&E-02, Chapters 1 and 3, respectively), the  
17 costs of risk mitigation projects and programs were translated from that RAMP Report into the  
18 individual witness areas.

19 In the course of preparing the Gas System Integrity GRC forecasts, SDG&E continued to  
20 evaluate the scope, schedule, resource requirements, and synergies of RAMP-related projects and  
21 programs. Therefore, the final representation of RAMP costs may differ from the ranges shown  
22 in the original RAMP Report. Table OR-2 provides a summary of the RAMP-related costs  
23 supported by my testimony:

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<sup>4</sup> I.16-10-015/I.16-10-016 Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, November 30, 2016. Please also refer to Ex. SCG-02/SDG&E-02, Chapter 1 (Diana Day) for more details regarding the utilities' RAMP Report.

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**Table OR-2**  
**San Diego Gas & Electric Company**  
**Summary of RAMP-Related Costs**

<b>GAS SYSTEM INTEGRITY (In 2016 \$)</b>			
<b>RAMP Risk Chapter</b>	<b>2016 Embedded Base Costs (000s)</b>	<b>TY 2019 Estimated Incremental (000s)</b>	<b>Total (000s)</b>
SDG&E-2 Catastrophic Damage Involving Third-Party Dig-Ins	125	500	625
SDG&E-3 Employee, Contractor, and Public Safety	0	127	127
SDG&E-13 Records Management	0	600	600
<b>Total O&amp;M</b>	<b>125</b>	<b>1,227</b>	<b>1,352</b>

Ms. Day (Ex. SCG-02/SDG&E-02, Chapter 1), describes how safety and security risks are assessed and factored into cost decisions on an enterprise-wide basis. My testimony includes costs to mitigate Gas System Integrity risks primarily associated with public and employee safety, system reliability, regulatory and legislative compliance, and pipeline system integrity. Specific risks, mitigating measures, and associated costs are further discussed in Section II of my testimony.

**C. Organization of Testimony**

My testimony is organized as follows:

- Introduction
- Risk Assessment Mitigation Phase and Safety Culture
  - RAMP
  - Safety Culture
- Non-Shared Costs
  - Asset Management
  - Pipeline Safety and Compliance
  - Damage Prevention
- Shared Costs
  - Codes and Standards
- Conclusion

1 **II. RISK ASSESSMENT MITIGATION PHASE AND SAFETY CULTURE**

2 **A. Risk Assessment Mitigation Phase**

3 As illustrated in Table OR-3, a portion of my requested funds are linked to mitigating the  
4 top safety risks that have been identified in the RAMP Report. These top risks were identified  
5 through the RAMP process described in the RAMP Report and are associated with activities  
6 sponsored in my testimony. These risks are summarized in Table OR-3 below:

7 **Table OR-3**  
8 **San Diego Gas & Electric Company**  
9 **RAMP Risks Summary**

<b>RAMP Risk</b>	<b>Description</b>
SDG&E-2 Catastrophic Damage Involving Third-Party Dig-Ins	This risk relates to the potential impacts from dig-ins resulting from third-party activities and is focused on the more serious results of third-party damage that lead to a release of natural gas with the possibility of hazard to life and property. The release of natural gas may not just occur at the time of the damage. A leak or rupture may also occur after the infrastructure has been damaged and reburied but becomes weakened over time.
SDG&E-3 Employee, Contractor, and Public Safety	This risk covers conditions and practices that may result in severe harm to employee, contractor, customer, and/or public safety. These conditions and practices may include driving, customer premises, and appliance conditions, as well as non-adherence to company safety policies, procedures, and programs.
SDG&E-13 Records Management	This risk relates to the use of inaccurate or incomplete information that could result in the failure to construct, operate, and maintain SDG&E pipeline system safely or to satisfy regulatory compliance requirements.

10 In developing my request, priority was given to these key safety risks to assess which risk  
11 mitigation activities Gas System Integrity currently performs and what incremental efforts are  
12 needed to further mitigate these risks. How my request was influenced by these key RAMP risks  
13 is further explained below by risk.

14 While developing the GRC forecasts, SDG&E evaluated the scope, schedule, and  
15 resource requirement, and synergies of RAMP-related projects and programs to determine costs  
16 already covered in the base year and those that are incremental increases expected in the TY  
17 2019. RAMP-related costs and activity descriptions are further described in Sections III and IV

below, as well as in my workpapers. Table OR-4 also provides a summary of RAMP-related O&M costs by workpaper number.

**Table OR-4  
San Diego Gas & Electric Company  
RAMP Risk Summary of Costs**

<b>GAS SYSTEM INTEGRITY (In 2016 \$)</b>			
<b>SDG&amp;E-2 Catastrophic Damage Involving Third-Party Dig-Ins</b>	<b>2016 Embedded Base Costs (000s)</b>	<b>TY 2019 Estimated Incremental (000s)</b>	<b>Total (000s)</b>
1SI003.000, DAMAGE PREVENTION AND PUBLIC AWARENESS	125	500	625
<b>Total</b>	<b>125</b>	<b>500</b>	<b>625</b>
<b>SDG&amp;E-3 Employee, Contractor, and Public Safety</b>	<b>2016 Embedded Base Costs (000s)</b>	<b>TY 2019 Estimated Incremental (000s)</b>	<b>Total (000s)</b>
1SI000.000, GAS CONTRACTOR CONTROLS	0	127	127
<b>Total</b>	<b>0</b>	<b>127</b>	<b>127</b>
<b>SDG&amp;E-13 Records Management</b>	<b>2016 Embedded Base Costs (000s)</b>	<b>TY 2019 Estimated Incremental (000s)</b>	<b>Total (000s)</b>
2100-3563.000, CODES STANDARDS AND RECORDS	0	600	600
<b>Total</b>	<b>0</b>	<b>600</b>	<b>600</b>

The RAMP risk mitigation efforts are associated with specific actions such as programs, projects, processes, and utilization of technology. For each of these mitigation efforts, an evaluation was made to determine the portion, if any, that was already performed as part of historical activities (*i.e.*, embedded base costs) and the portion, if any, that was incremental to base year activities. Furthermore, for the incremental activities, a review was completed to determine if any portion of incremental activity was part of the workgroup’s base forecast methodology (*i.e.*, base year, trending, averaging, etc.). The result was what SDG&E considers to be a true representation of incremental increases over the base year.

1 While the starting point for consideration of the risk mitigation efforts and costs was the  
2 RAMP Report, as described above, further evaluation may have resulted in changes to the scope,  
3 schedule, and costs; therefore, the incremental costs of risk mitigation sponsored in my  
4 testimony may differ from those first identified in the RAMP Report.

5 My incremental request supports the ongoing management of these risks that could pose  
6 significant safety, reliability, and financial consequences to our customers and employees. The  
7 anticipated risk reduction benefits that may be achieved by my incremental ask are summarized  
8 in Sections III and IV of my testimony.

9 **1. SDG&E-2 Catastrophic Damage Involving Third-Party Dig-Ins**

10 As noted in the Commission's Safety and Enforcement Division (SED) assessment  
11 evaluating the RAMP Report, the risk of third-party excavation damages is the highest for  
12 SDG&E. Excavation damage is a leading cause of pipeline catastrophes.<sup>5</sup> SDG&E manages the  
13 risk of third-party dig-ins through mitigation actions that have been developed and implemented  
14 over many years, including:

- 15 • Damage Prevention Public Awareness – The Public Awareness Program is mandated  
16 pursuant to Title 49 Code of Federal Regulations (C.F.R.) § 192.616. The purpose of  
17 this mitigation is to develop and implement a continuing public education program  
18 focused on the following:
- 19 ○ Use of the One-Call notification system;
  - 20 ○ Hazards associated with the unintended release of gas;
  - 21 ○ Physical indications that an unintended release of gas has occurred;
  - 22 ○ Steps that should be taken to protect public safety in the event of gas release; and
  - 23 ○ Procedures for reporting unintended releases of gas.

24 **2. SDG&E-3 Employee, Contractor, and Public Safety**

25 At SDG&E, the safety of employees/contractors and customers in the communities it  
26 serves is a core value. The Company safety culture has evolved over 135 years and underpins  
27 the Company's programs, policies, procedures, guidelines, and best practices. In my testimony,  
28 the Employee, Contractor, Customer, and Public Safety risk entails an employee and/or

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<sup>5</sup> See SED's Risk and Safety Aspects of Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, dated Mar. 8, 2017, at 30.

1 contractor who does not adhere to Company policies or procedures, which then results in a  
2 safety-related incident. SDG&E manages this risk through mitigation actions that have been  
3 developed and implemented over many years, as well as proposed incremental projects,  
4 programs, and processes. Safety and compliance considerations are captured throughout the  
5 Company's policies and procedures. Below is a description of some of the mitigation actions  
6 performed by Gas System Integrity personnel to mitigate this RAMP risk.

- 7 • Contractor Management and Traffic Control – This mitigation is based upon specific  
8 Company needs and contractor qualifications in selecting a contractor. Prior to the  
9 selection of a contractor, safety records are examined. Job requirements are specified  
10 in the Company's contracts with third parties, and contractors are required to meet all  
11 legal, regulatory, and contractual requirements, including safety requirements.  
12 During their work with the Company, the contractor's performance is monitored. The  
13 Contractor Management and Traffic Control mitigation contributes to the  
14 commitment of contractor safety and aligns with other potential best practices<sup>6</sup> on  
15 contractor safety.

### 16 3. SDG&E-13 Records Management

17 The Records Management risk has potential public safety, property, regulatory, and  
18 financial impacts. SDG&E manages this risk of record management through mitigation actions  
19 that have been developed and implemented over many years, including the following activities  
20 included in my testimony:

- 21 • Information Management System (IMS) – This mitigation consists of various  
22 applications that support records management such as the Geographic Information  
23 System, Work Management, Document Management, and Operational Monitoring  
24 Systems. These applications provide SDG&E system attribute information and  
25 descriptions of the applications and their functions, which are further described in  
26 Sections III and IV below, as well as in my workpapers.
- 27 ○ Alternative Considered – When developing this proposed incremental request, an  
28 alternative that was considered was implementing one centralized records

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<sup>6</sup> See, e.g., Pacific Gas and Electric Company's (PG&E) 2016 Kern Power Plant Incident's Order Instituting Investigation (OII) I.14-08-022.

1 management IT system for all operational asset groups. The centralized system  
2 would therefore replace all currently existing systems mentioned above. Even  
3 though this alternative would minimize the potential for multiple systems to have  
4 differing records and may reduce some costs, this alternative would also prevent  
5 each operational asset group from identifying, implementing, and utilizing a  
6 system that best meets the needs of the specific operational asset group. The  
7 centralized system approach does not allow specialization because not all records  
8 require the same attributes to be collected and retained.

9 The costs associated with mitigation activities related to the risk of Records Management  
10 are covered in the base year and the base forecasts discussed in Sections III and IV of my  
11 testimony.

## 12 **B. Safety Culture**

13 SDG&E is committed to providing safe, clean, and reliable service to its customers. Our  
14 safety culture focuses on public, customer, and employee safety, with this commitment  
15 embedded in every aspect of our work. Our safety culture efforts include developing a trained  
16 workforce, operating and maintaining the gas and electric infrastructure, and providing safe,  
17 clean, and reliable gas and electric service.

18 SDG&E's safety culture includes standardizing policies and standards; complying with  
19 applicable laws, regulations, and internal policies; building and operating a system that supports  
20 the safe, clean, and reliable delivery of gas; communicating with stakeholders; and using data  
21 and data analysis to help make informed corporate decisions. The Gas System Integrity function  
22 engages in the safety culture by providing these functions in support of Pipeline Integrity, Gas  
23 Transmission, and Gas Distribution.

24 On a daily basis, SDG&E's employees consider how to best prioritize safety-related  
25 work. Work elements are managed daily, based on a variety of risk factors and work drivers,  
26 such as federal and state regulatory requirements, customer and pipeline growth expectations,  
27 franchise obligations, permitting requirements, and conditions found during inspections. These  
28 work elements are prioritized based first on immediate safety and compliance considerations,  
29 and then, work is actively prioritized considering factors such as regulatory compliance  
30 deadlines, customer scheduling requirements, and overall infrastructure condition. Safety and  
31 compliance considerations are captured throughout the Company's policies and procedures.

1 More specifically, Gas System Integrity supports SDG&E's safety culture and its  
2 objective of a safe, clean, and reliable system by supporting the Public Awareness Program. The  
3 Public Awareness Program is a federally-mandated program established to educate the public,  
4 appropriate governmental organizations, and persons engaged in excavation-related activities.  
5 This program mitigates safety and reliability risks by enhancing public awareness of pipelines  
6 and other natural gas facilities and communicating stakeholder roles relative to pipeline safety.

7 SDG&E regularly assesses its safety culture and encourages two-way communication  
8 between employees and management as a means of identifying and managing safety risks. In  
9 addition to the reporting of pipeline and occupational safety incidents, there are multiple methods  
10 for employees to report close calls/near misses. At SDG&E, safety is a core value so we provide  
11 all employees with the training necessary to safely perform their job responsibilities.

12 Implementing a company-wide pipeline safety management system in response to American  
13 Petroleum Institute's Recommended Practice 1173 (API RP 1173) will reinforce the safety  
14 culture. Through the implementation of API RP 1173, the organization will improve the  
15 integration of business needs and the risks of operations in a more systemic manner. By  
16 adopting the 10 tenets of the API RP 1173 standard, asset, investment, and risk decisions will  
17 become more optimized and repeatable thus improving the safety performance of the  
18 organization and safety culture of our employees. Additional information regarding API RP  
19 1173 is discussed below in Section III under Gas Contractor Controls.

20 As noted by SED's evaluation of our RAMP Report, third-party dig-ins pose the greatest  
21 hazard to our system and the safety of the communities we serve. As explained above, public  
22 safety is foundational for SDG&E. Gas System Integrity covers the management of the  
23 programs designed to mitigate the frequency and impact of third-party dig-ins.

24 Finally, part of SDG&E's commitment to safety is the continuous implementation of  
25 safety training and education of SDG&E's workforce for the safe operation of our gas and  
26 electric systems for the benefit of the public as well as the workers. The training and education  
27 program includes Behavior-Based Safety training. Behavior-based training is an important  
28 component of building and maintaining a safety culture as it positively reinforces the correct  
29 actions.



1 **III. NON-SHARED COSTS**

2 “Non-shared services” are activities that are performed by a utility solely for its own  
 3 benefit. Corporate Center provides certain services to SoCalGas and SDG&E and to other  
 4 subsidiaries. For purposes of this GRC, SDG&E treats costs for services received from  
 5 Corporate Center as non-shared services costs, consistent with any other outside vendor costs  
 6 incurred by the utility. Table OR-5 summarizes the total non-shared O&M forecasts for the  
 7 listed cost categories.

8 **Table OR-5**  
 9 **San Diego Gas & Electric Company**  
 10 **Non-Shared O&M Summary of Costs**

<b>GAS SYSTEM INTEGRITY (In 2016 \$)</b>			
<b>Categories of Management</b>	<b>2016 Adjusted- Recorded (000s)</b>	<b>TY 2019 Estimated (000s)</b>	<b>Change (000s)</b>
A. ASSET MANAGEMENT	0	127	127
B. PIPELINE SAFETY & COMPLIANCE	31	106	75
C. DAMAGE PREVENTION	120	725	605
<b>Total Non-Shared Services</b>	<b>151</b>	<b>958</b>	<b>807</b>

11 **A. Asset Management**

12 Included in this section of the testimony are activities and associated O&M expenses to  
 13 address core Gas Contractor Controls duties. These activities and expenses are summarized in  
 14 Table OR-6 below.  
 15

16 **Table OR-6**  
 17 **San Diego Gas & Electric Company**  
 18 **TY 2019 Asset Management**

<b>GAS SYSTEM INTEGRITY (In 2016 \$)</b>			
<b>A. ASSET MANAGEMENT</b>	<b>2016 Adjusted- Recorded (000s)</b>	<b>TY 2019 Estimated (000s)</b>	<b>Change (000s)</b>
1. ASSET MANAGEMENT	0	127	127
<b>Total</b>	<b>0</b>	<b>127</b>	<b>127</b>

1                   **1.       Description of Costs and Underlying Activities**

2                   Gas Contractor Controls

3                   Gas Contractor Controls collaborates with Company and industry leaders and subject  
4 matter experts to formulate and promote policy related to construction contractor safety and  
5 pipeline safety/quality oversight. To do this, they must perform the following duties:

- 6                   • Establish, maintain, and expand construction contractor oversight program, including  
7 safety (occupational and process), to systematically review, assess, and enhance the  
8 management practices related to contractors;
- 9                   • Provide written guidance on inspection of workmanship on the pipeline;
- 10                  • Facilitate invoice approval process via online training and invoice submittal system  
11 user support; and
- 12                  • Construction fraud vigilance and training.

13                  To implement construction fraud vigilance, the Company diligently reviews the quality  
14 and cost of work performed by pipeline construction and other contractors. Inferior quality work  
15 directly impacts the safety of pipeline operations, employees, and the public. The quality of the  
16 work, as well as the cost, can be impacted by fraudulent practices, such as replacing specified  
17 materials or equipment with those of inferior quality or quantity, modifying post-construction  
18 test procedures to reduce costs or conceal the unapproved replacement of materials or equipment,  
19 employing project staff that are less experienced than required by contract, and subcontracting  
20 work without Company approval to conceal the use of unapproved vendors or contractors.

21                  Additional responsibilities include:

- 22                  • Deliver pipeline construction fraud awareness training;
- 23                  • Author and maintain Company Gas Standards, forms, and workflows related to  
24 construction contractor oversight and associated information/records collection,  
25 including those related to California Public Utilities Code Section 141 Construction  
26 and Safety Standards, which is a subpart of General Order (GO) 112-F; and
- 27                  • Develop Safety Congress presentation/content and facilitate quarterly meetings.

28                  Pipeline Safety Management System (PSMS)

29                  Develop and implement a company-wide PSMS API RP 1173, consistent with the  
30 Pipeline and Hazardous Materials Safety Administration’s (PHMSA’s) recommendation.

1 “PHMSA fully supports the implementation of RP 1173 and plans to promote vigorous  
2 conformance to this voluntary standard.”

3         API 1173 is a systematic way to identify hazards and control risks while validating that  
4 these risk controls are effective. This includes increased interdepartmental integration of all  
5 pipeline safety-related programs, risk management, development and monitoring of leading and  
6 lagging indicators, reporting and oversight processes, continuous program monitoring and  
7 improvement, enhanced incident investigation and lessons learned, safety culture evaluation,  
8 improved management of change and recordkeeping, enhanced emergency preparedness, and  
9 competence training. This area covers the entire lifecycle of the pipeline system, including  
10 support services such as:

- 11         • Leadership and Management Commitment – Lead the development, implementation,  
12             and continuous improvement of the PSMS;
- 13         • Stakeholder Engagement – Process for two-way communications with internal and  
14             external stakeholders regarding risk and safety;
- 15         • Risk Management – Process to identify, evaluate, and respond to pipeline threats  
16             throughout the lifecycle;
- 17         • Operational Controls – Process for safe installation, operation, maintenance, and  
18             emergency response, and activities including system integrity, change management,  
19             and use of contractors;
- 20         • Incident Investigation, Evaluation, and Lessons Learned – Procedures to investigate  
21             incidents and lessons learned from internal and external events to prevent  
22             reoccurrence;
- 23         • Safety Assurance – Processes including audit and evaluation of the effectiveness of  
24             the PSMS and risk management using metrics and Key Performance Indicators  
25             (KPIs);
- 26         • Continuous Improvement – Identify and implement corrective actions by using audit  
27             results, assessment, remedial actions, and data analysis to improve the PSMS;
- 28         • Emergency Preparedness and Response – Procedures to effectively respond to  
29             emergencies;

- Competence, Awareness, and Training – Process for personnel have the skills, training, education, knowledge, and experience to accomplish their PSMS responsibilities; and
- Documentation and Recordkeeping – Maintain a document control process.

## **2. Forecast Method**

The forecast method developed for this cost category is a zero-based approach. The zero-based approach is used to account for new activities to enhance SDG&E’s Gas Contractor Controls department, which does not have a five-year history for the newly inaugurated functions. Labor is composed of Gas Contractor Controls department management’s direct salaries associated with the work to support the management and execution of large construction projects. A complementary cost element for each added position is the non-labor component. The non-labor cost is composed of employees’ expenses, employee training costs, software license fees for project management and control systems, and consulting fees. Under this category of work, SDG&E requests a total of \$127,000.

## **3. Cost Drivers**

The cost driver for this work category is the labor to meet Company’s practices and procedures and regulatory requirements, which is a proposed risk mitigation activity of contractor management and traffic control in RAMP SDG&E-3 Employee, Contractor, and Public Safety. The API RP 1173 group will be involved in developing a strategic safety management capability in accordance with the industry-recognized RP API 1173. Enhancing the safety culture at regulated utilities was referenced in a report by the Safety Policy Statement of the CPUC dated July 10, 2014:

The CPUC Guiding Principles include:

- “Ultimately we are striving to achieve a goal of zero accidents and injuries across all the utilities and businesses we regulate within our own workplace.”
- “Continually assess and reduce the safety risk posed by the companies we regulate.”
- “Hold companies (and their extended contractors) accountable for safety of their facilities and practices.”

This new group will be the program structure that assesses, leverages, and integrates the in-flight improvement work across all aspects of the business and will support the creation of

1 select new capability, for the benefit of ratepayers and our employees by supporting our goals of  
2 safety, reliability, affordability, and customer satisfaction.

3 There are many external and internal benefits of applying API RP 1173 within the  
4 organization. Externally, the implementation aligns the Company with the recommendations in  
5 2015 from the SED that SDG&E continues evolving its Risk Management Program. This  
6 aligned with initiatives, such as the 2016 RAMP Report, to qualitatively and quantitatively  
7 assess company-wide risks and their associated mitigation initiatives in order to improve safety.  
8 The implementation of API RP 1173 is yet another step towards more effective asset and risk  
9 management decision-making to ultimately improve safety performance. The implementation of  
10 API RP 1173 will also streamline future RAMP filings.

11 For the breakdown of cost adjustments, refer to my workpapers, Ex. SDG&E-05-WP.

12 **B. Pipeline Safety and Compliance**

13 Included in this section of the testimony are activities and associated O&M expenses to  
14 address the core Pipeline Safety and Compliance duties. These activities and expenses are  
15 summarized in Table OR-7 below.

16 **Table OR-7**  
17 **San Diego Gas & Electric Company**  
18 **TY 2019 Pipeline Safety and Compliance**

<b>GAS SYSTEM INTEGRITY (In 2016 \$)</b>			
<b>B. PIPELINE SAFETY AND COMPLIANCE</b>	<b>2016 Adjusted- Recorded (000s)</b>	<b>TY 2019 Estimated (000s)</b>	<b>Change (000s)</b>
1. PIPELINE SAFETY AND COMPLIANCE	31	106	75
<b>Total</b>	<b>31</b>	<b>106</b>	<b>75</b>

19  
20 **1. Description of Costs and Underlying Activities**

21 The Pipeline Safety and Compliance group serves as the point of contact with the  
22 Commission during SED audits and manages responses to various SED inquiries. The group  
23 leads all gas utility audits in areas related to policies and rules pertaining to GO 112-F and  
24 provides counsel, guidance, and information to Gas Engineering and Gas Operations groups on  
25 pipeline safety issues relative to CPUC and DOT regulations. Specific activities include

1 representing SoCalGas and SDG&E in all interactions with SED related to natural gas  
2 operations, as well as providing direction and guidance to utility personnel to maintain  
3 compliance with DOT/CPUC pipeline regulations.

4 This cost supports the Company's goals of complying with all state and federal pipeline  
5 regulations in the safe operation of our gas system.

## 6 **2. Forecast Method**

7 The forecast method developed for this cost category for labor and non-labor expenses is  
8 the base year method. In addition, incremental adjustments to the base year were included to  
9 represent the expenses anticipated in TY 2019. An average or linear trend could not account for  
10 anticipated growth in the activities for this cost category.

## 11 **3. Cost Drivers**

12 The key cost driver behind this forecast is the significant increase in Commission  
13 oversight of utility pipeline activities. This oversight includes an increase in the number and  
14 complexity of program and field audits, data requests, field visits, and discussions of best  
15 practices. For example, the annual OME audit typically has approximately 3 auditors, but in  
16 2017 there were 12 auditors all making separate inquiries that involved extensive coordination of  
17 staff in all areas of gas compliance. Their findings needed to be investigated and analyzed, and  
18 enhancements developed and project managed. Also, to illustrate the volume SED audit  
19 increases, the number of SED audits has increased from 17 weeks in 2014 to 35 weeks in 2016.  
20 With the introduction of API RP 1173, there are key areas such as quality management, incident  
21 investigation, and communication of lessons learned that require formalized and robust processes  
22 to accomplish the desired proactive system safety process enhancements.

23 Additionally, the group is responsible for reporting incidents to the CPUC that meet  
24 certain activities with the implementation of GO 112-F, the number of which has increased since  
25 the implementation of these new requirements. For example, there have been 57 reportable  
26 incidents in the first quarter of 2017 compared with 26 for the same time period in 2016, a 119%  
27 increase.



1 “The program and media used must be as comprehensive as necessary to reach all areas in  
2 which the operator transports gas” and “must include activities to advise affected municipalities,  
3 school districts, businesses, and residents of pipeline facility locations.”<sup>9</sup> The program must be  
4 conducted not only in English, but also “in other languages commonly understood by a significant  
5 number and concentration of the non-English speaking population in the operator’s area.”<sup>10</sup> The  
6 operator is required to track these communications and evaluate the messages for resonance and  
7 impact and “[t]he operator’s program documentation and evaluation results must be available for  
8 periodic review by appropriate regulatory agencies.”<sup>11</sup>

9 Annually, the SDG&E Public Awareness Program reaches approximately:

- 10 • 3.6 million consumers;
- 11 • 27,208 excavators and land developers;
- 12 • 329 fire stations/ emergency officials; and
- 13 • 64 public officials.

14 Every two years, the program reaches:

- 15 • 142,165 residents and businesses along pipeline rights-of-way within SoCalGas’  
16 distribution service territory;
- 17 • 107 residents and businesses near storage facilities and compressor stations; and
- 18 • 1,488 schools.

19 To implement the Public Awareness Program, the Public Awareness Administrator (PAA)  
20 uses a matrix-managed approach relying upon multiple organizations within SDG&E for plan  
21 element execution. The PAA is responsible for coordinating and managing the execution of the  
22 activities to successful completion. The program requires that PAA use various tools, such as  
23 software, to track and document activities. There are five audience categories for  
24 communications and each has its own message, medium, and frequency. New audiences can be  
25 developed, because certain audiences, for example farmers, may benefit from receiving specific  
26 information suited to a particular context, or otherwise do not identify with the content of another  
27 audience. SDG&E faces the additional challenge of identifying and reaching non-gas customers  
28 who reside along pipeline rights-of-way. Developing mailing lists and messages that would be

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<sup>9</sup> 49 C.F.R. § 192.616(e)-(f).

<sup>10</sup> 49 C.F.R. § 192.616(g).

<sup>11</sup> 49 C.F.R. § 192.616(i).



1 recognizable as pertinent and not junk mail by this segment is complex, and SDG&E is required  
2 to continuously make revisions to keep the messaging fresh and relevant.

### 3 **2. Forecast Method**

4 An adjusted forecast was chosen as the foundation for future labor and non-labor  
5 expenses. Increased public awareness activities could boost the number of calls to 811  
6 (Underground Service Alert (USA)) and reduce the number of damages, therefore we plan to  
7 augment our cost in these areas to further contribute to lowering the number of damages to our  
8 system while also contributing to mitigate our number one threat, third-party damages.  
9 Additionally, as a proposed risk mitigation activity in RAMP SDG&E-2 Third-Party Dig-Ins,  
10 SDG&E proposes to increase the volume of current efforts while also exploring new creative  
11 way to saturate the message into target audiences.

### 12 **3. Cost Drivers**

13 The cost drivers behind this forecast are: (1) the requirements of 49 C.F.R. § 192.616;  
14 (2) the technical document, Public Awareness Programs for Pipeline Operators, API RP 1162,  
15 First Edition, also referred to as simply RP 1162 or 1162, because 49 C.F.R. § 192.616 expressly  
16 requires operators to follow the guidelines and recommendations set forth in API RP 1162; and  
17 (3) program expansion recommendations by regulators.

18 Federal Public Awareness regulations specifically direct pipeline operators to continually  
19 assess and improve the effectiveness of their Public Awareness Programs. A key to help  
20 promote continuous improvement is for SDG&E to evaluate the impact of its Public Awareness  
21 program. The impact from the Public Awareness Program lies within its communications both  
22 in content and medium (delivery). It is therefore necessary for SDG&E to evaluate both the  
23 content of its messages and message delivery systems.

24 An example would be to undertake an assessment of messaging to raise safety awareness.  
25 This measurement requires surveys of various groups to determine how and to what extent the  
26 Public Awareness messages are reaching them. Not all messages or delivery systems work for  
27 all stakeholders. In other words, a one-size-fits-all approach is not the most effective way to  
28 communicate. Through formal measurements or surveys of the various audiences, SDG&E  
29 assesses what is working and what is not.

30 The frequency of formal measurements or surveys, and how tailored those measurements  
31 and surveys are, are key factors that impact the costs of implementing a successful Public

1 Awareness Program. More frequent and targeted assessments help SDG&E to develop more  
2 succinct and relevant messages and deliver them in formats and mediums that meet the needs of  
3 each particularly identified audience. The more frequent and targeted the surveys are, however,  
4 results in higher costs of conducting those surveys.

5 Another cost driver is the recommendations from SED when it concluded its Public  
6 Awareness audit, in which it offered additional communication messages to existing audiences to  
7 further promote pipeline safety.<sup>12</sup> SDG&E is judiciously incorporating staff recommendations  
8 into the Public Awareness plan, but the amount of information can become overwhelming to  
9 recipients. Therefore, caution must be exercised and carefully-crafted messages must be  
10 developed to avoid having information overlooked or discarded as “junk mail.”

11 Lastly, another cost driver is review of any recommended additions made in the API RP  
12 1162, Second Edition and making the necessary changes to our program. These changes will  
13 more than likely result in additional communication activities, which may result in additional  
14 resources beyond what is forecast here.

#### 15 **IV. SHARED COSTS**

16 As described by Mr. Vanderhye (Ex. SCG-34/SDG&E-32), shared services are activities  
17 performed by a utility shared services department (*i.e.*, functional area) for the benefit of: (1)  
18 SDG&E or SoCalGas, (2) Sempra Energy Corporate Center, and/or (3) any unregulated  
19 subsidiaries. The utility providing shared services allocates and bills incurred costs to the entity  
20 or entities receiving those services. Table OR-9 summarizes the total shared O&M forecasts for  
21 the listed cost categories below.

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<sup>12</sup> See SDG&E/SoCalGas’ Response to CPUC’s Public Awareness audit results, dated June 17, 2013.

**Table OR-9**  
**San Diego Gas & Electric Company**  
**Shared O&M Summary of Costs**

<b>GAS SYSTEM INTEGRITY (In 2016 \$)</b>			
<b>(In 2016 \$) Incurred Costs (100% Level)</b>			
<b>Categories of Management</b>	<b>2016 Adjusted- Recorded (000s)</b>	<b>TY 2019 Estimated (000s)</b>	<b>Change (000s)</b>
A. CODES AND STANDARDS	0	600	600
<b>Total Shared Services (Incurred)</b>	<b>0</b>	<b>600</b>	<b>600</b>

I am sponsoring the forecasts on a total incurred basis, as well as the shared services allocation percentages related to those costs. Those percentages are presented in my shared services workpapers, along with a description explaining the activities being allocated. Please see my workpapers, Ex. SDG&E-05-WP. The amounts allocated to affiliates are presented by Mr. Vanderhye (Ex. SCG-34/SDG&E-32).

**A. Codes and Standards**

**1. Codes Standards and Records (Cost Center 2100-3563)**

**a. Description of Costs and Underlying Activities**

This cost center supports the development and integration of Gas Standards for both SoCalGas and SDG&E. Gas Standards are policies that help the two utilities meet their regulatory obligations and allow for information exchange to enhance public and employee safety. The CPUC annually audits both companies and their Gas Standards. The cost reflects the labor support to manage and provide consistency across both companies with respect to the Gas Standards, and to prepare documentation and perform follow-up implementation post-SED audits.

**b. Forecast Method**

The forecast method developed for this cost category is a zero-based approach. The zero-based approach is used to account for new activities to enhance SDG&E's Codes Standards and Records non-labor expenses, which do not have a five-year history for the newly inaugurated functions. Under this category of work, SDG&E is requesting a total of \$600,000.



1 **VI. WITNESS QUALIFICATIONS**

2 My name is Omar Rivera. My business address is 555 West Fifth Street, Los Angeles,  
3 California 90013. I am employed by SoCalGas as the Director of Gas System Integrity Staff &  
4 Programs. In this position, I am responsible for providing strategic direction and management of  
5 policies, procedures and programs to comply with safety and other codes in an efficient and  
6 repeatable manner. The principles of continuous improvement are embraced to optimize and  
7 standardize activities while enhancing safety. Metrics for performance monitoring are set,  
8 monitored, and acted upon with Operations.

9 I have been employed at SoCalGas since 2000 and have held a variety of positions with  
10 increasing responsibility within Operations (Gas Distribution & Gas Transmission), Gas  
11 Engineering, and Project Management Departments. I have worked in much of SoCalGas' and  
12 SDG&E's service territories where I have been responsible for various areas related to managing  
13 an operations transmission district, planning, installation, replacement of gas infrastructure, as  
14 well as providing leadership in implementing Gas Standards, business process enhancements,  
15 and compliance assurance support. I have held my current position as Director of Gas System  
16 Integrity Staff & Programs since January 2017.

17 I hold a Bachelor of Science degree in Mechanical Engineering from California State  
18 Polytechnic, Pomona.

19 I have not previously testified before the Commission.

## LIST OF ACRONYMS

<b>ACRONYM</b>	<b>DEFINITION</b>
API	American Petroleum Institute
C.F.R.	Code of Federal Regulations
CPUC	California Public Utilities Commission
DOT	Department of Transportation
GO	General Order
GRC	General Rate Case
IMS	Information Management System
IT	Information Technology
KPI	Key Performance Indicator
O&M	Operations and Maintenance
OII	Order Instituting Investigation
PAA	Public Awareness Administrator
PG&E	Pacific Gas and Electric Company
PHMSA	Pipeline and Hazardous Materials Safety Administration
PSMS	Pipeline Safety Management System
RAMP	Risk Assessment Mitigation Phase
RP	Recommended Practice
SDG&E	San Diego Gas & Electric Company
SED	Safety and Enforcement Division
SMYS	Specified Minimum Yield Strength
SoCalGas	Southern California Gas Company
TY	Test Year
USA	Underground Service Alert