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Application: A.14-11-____
Exhibit: SCG-03

SOCALGAS

DIRECT TESTIMONY OF DOUGLAS M. SCHNEIDER

GAS OPERATIONS RISK POLICY

November 2014

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



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SUMMARY

- My testimony provides an overview of SoCalGas and SDG&E's strong safety culture and commitment to further developing processes and programs designed to manage safety risks and to promote system reliability.
- SoCalGas and SDG&E have well-developed risk management processes and programs in place for gas operations, from daily operations and maintenance (O&M) activities to the extensive Integrity Management Programs for transmission (TIMP) and distribution (DIMP) facilities.
- SoCalGas and SDG&E are committed to the continued growth and development of our existing risk management processes into a more fully integrated enterprise risk management (ERM) governance structure.
- Consistent with our commitment to continuous improvement, our general rate case (GRC) test year (TY) 2016 includes proposals to enhance and expand our gas operations risk management practices. For example, SoCalGas proposes to implement a new Storage Integrity Management Program for underground storage wells (SIMP).
- Our TY2016 gas operations funding requests are tied to our risk management processes and will allow SoCalGas and SDG&E to continue providing safe and reliable service to our customers at reasonable rates. Through continued risk management efforts, we will maintain our system's safety and reliability well into the future.

1 **PREPARED DIRECT TESTIMONY OF DOUGLAS M. SCHNEIDER**
2 **GAS OPERATIONS RISK POLICY**

3 **I. INTRODUCTION**

4 Southern California Gas Company (SoCalGas) and San Diego Gas & Electric (SDG&E)
5 have always focused on delivering natural gas safely and reliably to our customers. Combined,
6 SoCalGas' and SDG&E's over 117,000 mile natural gas pipeline transmission and distribution
7 network delivers gas to Southern California businesses and residents through approximately 6.7
8 million meters.¹ Our approach to operating our pipeline system has always been, and continues
9 to be, safety-driven.² My testimony provides an overview of SoCalGas and SDG&E's safety
10 culture and our commitment to further developing processes and programs designed to mitigate
11 safety risks and maintain system reliability.

12 Our approach to safety is founded upon a commitment to continuous improvement.
13 While we take great pride in our long history of providing safe and reliable service, we
14 continually seek out opportunities to enhance and improve our risk management practices. Data,
15 knowledge and new technologies are analyzed and utilized with the goal of preventing
16 conditions or circumstances that could negatively impact safety and reliability. The use of data
17 to drive actions is the foundation of a risk-based approach to safety and has been in place and
18 improved upon over the last several decades at both SoCalGas and SDG&E. As explained in the
19 testimony of Diana Day (SCG-02, SDG&E-02), SoCalGas and SDG&E are committed to further
20 developing processes that address safety and reliability within a comprehensive Enterprise Risk
21 Management (ERM) framework.

22 Our GRC test year (TY) 2016 gas operations funding requests allow SoCalGas and
23 SDG&E to continue to perform the work to operate the gas system safely and reliably. The
24 requests include funding for necessary resources to continue to perform foundational (and often
25 required) safety-driven activities and to enhance our programs and capabilities using technology
26 and systems to assess infrastructure and to act upon those assessments. Investing in new
27 technologies and establishing programs to enhance our ability to gather, preserve and analyze

¹ SoCalGas has 102,471 miles of pipeline and 5.8 million customer meters. SDG&E has 14,821 miles of pipeline and 865,300 customer meters.

² The California Public Utilities Code has long-required utilities to "furnish and maintain such adequate, efficient, just, and reasonable service ... to promote the safety, health, comfort, and convenience of its patrons, employees, and the public." Cal. Pub. Util. Code § 451.

1 information and to manage safety risks through prevention and mitigation of potential
2 consequences is a cornerstone of our risk-based approach to safety and reliability.

3 My testimony describes:

- 4 • How SoCalGas and SDG&E implement a strong safety culture;
- 5 • How SoCalGas and SDG&E implement gas operations practices and programs to
6 address safety and reliability risks;
- 7 • How SoCalGas and SDG&E continuously consider safety and reliability risk within
8 our gas operations investment prioritization decisions; and
- 9 • How SoCalGas' and SDG&E's testimonies in this TY 2016 GRC supports funding
10 requests to mitigate safety, reliability and security risks facing our system today.

11 The testimony of Dave Geier similarly addresses these topics from the SDG&E electric
12 operations perspective.

13 **II. SAFETY CULTURE**

14 SoCalGas and SDG&E's longstanding commitment to safety focuses on three primary
15 areas –public safety, customer safety, and employee safety. This safety focus is embedded in
16 what we do and is the foundation for who we are – from initial employee training, to the design,
17 installation, operation and maintenance of our utility infrastructure, to our commitment to
18 provide safe and reliable service to our customers.

19 Both SoCalGas and SDG&E launched initiatives to build and strengthen our safety
20 cultures in the mid-1990s. At that time, SoCalGas had an Occupational Safety and Health
21 Administration (OSHA) recordable incident rate of approximately 8.0 and SDG&E had a
22 recordable incident rate of approximately 8.5. By 2013, SoCalGas' and SDG&E's OSHA
23 recordable incident rates per year had dropped to approximately 3.5 and 2.3, respectively.

24 In 2013, SoCalGas and SDG&E asked the National Safety Council (NSC) to assess and
25 compare the safety cultures of SoCalGas and SDG&E to other companies using its "Safety
26 Barometer" database. SoCalGas and SDG&E each achieved overall Safety Barometer scores of
27 93 out of a possible 100, which is considered very high, showing that only 7% of the 580 firms
28 in the NSC Database achieved a higher overall score than SoCalGas and SDG&E.³

³ National Safety Council Safety Barometer March 2013 SoCalGas. 6238 employees across 75 locations participated; the survey measured responses to safety and work-related statements in categories that included participation of management, supervisors and employees, as well as "safety support" and organizational activities and climate. Scores are zero to 100.

1 SoCalGas and SDG&E have broad safety programs that incorporate employee
2 involvement in furthering our safety culture. The safety cultural experience at SoCalGas and
3 SDG&E begins with the formalized training employees receive when they begin their career,
4 which is emphasized on the job, and is then re-emphasized during the training employees receive
5 as they advance into new jobs.

6 SoCalGas and SDG&E conduct frequent, and in many cases, daily, meetings with
7 employees who work in field jobs during which time health and safety topics are discussed. Job
8 observations are also conducted where employees' safe behaviors are reinforced and coached.
9 Over 500 employees serve on safety committees, whose membership rotates among the
10 workforce. Safety committee members work on projects to reduce or eliminate hazards, prevent
11 injuries and raise safety awareness, through person-to-person interaction. SoCalGas and
12 SDG&E seek to enhance the mindset that keeps employees watchful of each other's safety.

13 In 2012, SoCalGas and SDG&E implemented natural gas safety plans in accordance with
14 California Public Utilities Code Sections 961 and 963. The Safety Plans convey SoCalGas' and
15 SDG&E's safety performance expectations and describe the various programs, policies,
16 standards, and procedures that are designed to accomplish those expectations. In the hierarchy of
17 documents that communicate SoCalGas and SDG&E's gas operations safety program, this
18 Safety Plan is at the top. In addition, as described in our respective gas safety reports, SoCalGas
19 and SDG&E prioritize work to comply with laws and regulations and provide system integrity
20 and reliability in accordance with our commitment to safety.⁴

21 Because our focus on safety is deeply embedded in our culture and everything that we do,
22 nearly all of our witnesses further elaborate on our safety culture in their respective testimony
23 volumes. A few examples of subject areas that particularly highlight our safety focus in gas
24 operations: Sarah Edgar (SDG&E-24) and Mark Serrano (SCG-23) support costs for programs
25 utilized by each utility to address employee safety. The Gas operations witnesses Frank Ayala
26 (SDG&E-04, SCG-04), Maria Martinez (SDG&E-07, SCG-08), Ray Stanford (SDG&E-06,
27 SCG-07), John Dagg (SDG&E-05, SCG-05) and Phil Baker (SCG-06) address gas operations

⁴ See Southern California Gas Company, January 1 – June 30, 2013 Gas Transmission, Distribution and Storage Safety Report, p. 6. SDG&E's Safety Plan includes a similar commitment. See San Diego Gas & Electric Company, January 1 – June 30, 2013 Gas Transmission, Distribution and Storage Safety Report, p. 6.

1 and the associated risk mitigation activities that SDG&E and SoCalGas undertake in designing,
2 constructing, operating and maintaining the gas systems.

3 **III. GAS OPERATIONS AT SOCIALGAS AND SDG&E MANAGE RISK**

4 As described above, SoCalGas and SDG&E's gas operations safety philosophy and
5 practices are rooted in a strong safety culture that is focused on continuous improvement and an
6 operational commitment to risk mitigation through targeted programs and initiatives. SoCalGas
7 and SDG&E have long-recognized the need for a reliable and safe natural gas system. The goal
8 of providing natural gas safely and reliably to customers is considered at every stage of design,
9 materials selection, construction, operation and maintenance of the natural gas systems.

10 **A. SoCalGas and SDG&E's Risk Management Practices**

11 SoCalGas and SDG&E manage gas operations risks daily through O&M and capital work
12 elements based on a variety of risk factors and work drivers, such as conditions found during
13 inspections, federal and state regulatory requirements, customer and pipeline growth
14 expectations, franchise obligations, and permitting requirements. Company policies require that
15 immediate safety and compliance considerations be prioritized first, and subsequent work is then
16 actively prioritized considering factors such as regulatory compliance deadlines, customer
17 scheduling requirements, weather, and overall infrastructure condition.

18 SoCalGas and SDG&E also invest in a variety of capital improvements. Specific factors
19 considered in the prioritization process of capital work may vary depending on the type of
20 project. The prioritization of pipeline projects (*e.g.*, mains, services, cathodic protection, valves,
21 and regulator station replacements) is driven by a review of maintenance activities and findings,
22 results of field workforce inspections, and the ability of the system to meet changing customer
23 requirements. Other factors considered for the replacement of assets include the properties of the
24 infrastructure, general equipment reliability, and/or design obsolescence.

25 The performance of cast iron, copper, and PVC (polyvinyl chloride) pipe for the
26 distribution of natural gas have proven to be of concern. SoCalGas and SDG&E have removed
27 pipe made with these material from its system. The replacement of these materials starting in the
28 1980s is an example of using risk to drive prioritization of capital investment. Current programs
29 to address pipeline replacements are addressed by the appropriate operational witness.

1 **B. SoCalGas and SDG&E’s Risk Mitigation Through Integrity Management**

2 SoCalGas’ and SDG&E’s Transmission and Distribution Integrity Management

3 Programs demonstrate the implementation of processes and technology as part of continuous
4 improvement and our risk-driven approach to operating and maintaining our system. Through
5 these pipeline integrity programs, SoCalGas and SDG&E continually evaluate the pipeline
6 system by gathering and integrating data and then proactively taking action based upon the
7 information to perform inspections, replacements and other remediation activities that verify and
8 enhance safety and reliability.⁵ As DIMP and TIMP programs mature, the ability to compare the
9 risk of various threats to the safety and reliability of the system will improve. In addition, as
10 discussed in the testimony of Phillip Baker (Exhibit SCG-06), we propose to adopt a new
11 Storage Integrity Management Program (SIMP) that will apply integrity management principles
12 to underground storage assets and are not part of TIMP and DIMP. As Ms. Day testifies,
13 SoCalGas and SDG&E are committed to continued development of an ERM governance
14 structure.

15 The threats and associated risk identified through TIMP and DIMP include risks to public
16 and employee safety, system reliability and physical security. The loss of pipeline or facility
17 equipment could impact system reliability by reducing system capacity, inhibiting the ability to
18 efficiently move gas through the system and/or diminishing deliverability of gas to customers.
19 This could have a particularly significant impact on customers that provide key health and safety
20 services, such as hospitals and electric generators. Similarly, interruptions of natural gas supply
21 to refineries and other critical infrastructure could disrupt the economy and quality of life of
22 Californians.

23 An essential component of an effective risk management program is the prioritization of
24 assessment and resultant mitigation activities. For example, in TIMP pipeline assessments in
25 populated areas are prioritized to be completed prior to the completion of non-populated areas.
26 The assessment results are then used to drive specific mitigation activities.⁶ Another example is
27 the sewer lateral inspection program (SLIP) in DIMP. Areas where cross bores of natural gas

⁵ In D.14-06-007, the CPUC approved SoCalGas’ and SDG&E’s Pipeline Safety Enhancement Plan. Information gathered in the execution of the plan will be integrated with other data as part of integrity management activities.

⁶ Discarded or unworkable alternatives to performing assessments or mitigation have not been formally documented.

1 pipes with sewer lines are known to have occurred receive a higher priority to be inspected
2 compared to areas where the data indicate solely a potential for cross bore. Additional
3 information on these programs is included in the testimony of Ms. Martinez.

4 **IV. SOCALGAS AND SDG&E'S PROCESS FOR INCORPORATING SAFETY AND**
5 **SECURITY RISK MANAGEMENT**

6 SoCalGas and SDG&E's request is largely driven by performing activities to monitor and
7 the integrity and reliability of the system. Various activities are performed to identify changes to
8 operating environments and take action when appropriate to maintain safety and reliability. The
9 health of the pipeline systems are monitored by verifying the status of several parameters
10 including natural gas odorization, corrosion control measures, pressure control equipment status
11 and system pressures.

12 Equally important to the monitoring of the system integrity and reliability is the effective
13 implementation of programs designed to prevent damage to the pipeline, and in the event that an
14 unintentional release of natural gas occurs, the public and emergency responders are prepared
15 and the consequence of the release is minimized. SoCalGas and SDG&E have excavation
16 damage prevention and public awareness programs in place that promote pipeline safety and
17 minimize risk.

18 Throughout the years, SoCalGas and SDG&E have built upon the successful safety
19 practices that are reflected in our long history of safely and reliably operating and maintaining
20 our gas system. While achieving compliance with applicable laws and regulations is a priority at
21 SoCalGas and SDG&E, in the spirit of continuous improvement, both utilities strive to identify
22 prudent opportunities to implement safety enhancements. These activities and programs are
23 further explained by Mr. Stanford (Exhibits SCG-07 and SDG&E-06), Mr. Ayala (Exhibits
24 SCG-04 and SDG&E-04), Mr. Dagg (Exhibits SCG-05 and SDG&E-05) and Mr. Baker (Exhibit
25 SCG-07).

26 **V. THE SAFETY AND SECURITY RISKS BEING MANAGED BY CAPITAL AND**
27 **O&M SPENDING IN THE TY 2016 GRC**

28 SoCalGas and SDG&E are committed to more fully developing an ERM governance
29 structure, as discussed in the testimony of Diana Day (Exhibits SCG-02 and SDG&E-02). In an
30 effort to give a very high-level sense of how our GRC requests address broad categorical types of
31 risk, we have approximated funding requests from various witness testimonies in a list of risk
32 categories below. These categories are similar to a list of safety risks SoCalGas identified as part

1 of the Commission's Risk-Framework Rulemaking,⁷ combined here for purposes of my
2 testimony. Of the many types of risk that confront our operations, these top categories address
3 public and employee safety, system integrity, data security and reliability. The gas operational
4 areas that are included in this risk categorization effort are: Gas Distribution, Gas Transmission,
5 Gas Engineering, Pipeline Integrity, Gas Storage and Information Technologies.⁸

6 Risk mitigation efforts naturally overlap and preclude distinct boundary definitions. For
7 example, infrastructure integrity efforts also enhance system reliability and public safety. Efforts
8 to maintain and improve system reliability inherently also improve public safety, for example, by
9 maintaining: reliable service to natural gas-fired power plants, local distributed generation
10 facilities, refineries and commercial, industrial and residential heating and boiler systems.
11 General Order 112-E compliance, by design, also improves system infrastructure integrity. And
12 as previously discussed, safety is a consideration in everything we do. The risk category list
13 below nevertheless attempts to identify costs exclusive of other risk mitigation efforts (like
14 safety), so that the same cost category is not identified twice. Neither the risk category list nor
15 the funding request compilation is all-inclusive. Rather, this represents our preliminary effort to
16 demonstrate in broad categories the gas-related GRC requests for both SoCalGas and SDG&E
17 that mitigate certain types of identified risks. These risk categories, summarized as follows, are
18 expected to evolve as circumstances change and SoCalGas and SDG&E continue to develop and
19 enhance our ERM governance structure:

20 **System Reliability:** This category includes the cost of pressure betterment, compressor
21 upgrades and replacements, new business installations, routine pipeline replacements, storage
22 field compressors, gas compression stability and control, storage field operations, asset
23 management, training and engineering support.

24 **Infrastructure Integrity, Physical Security and Environmental:** This category
25 includes costs for major infrastructure integrity programs such as TIMP, DIMP and SIMP,
26 distinguished from reliability or security costs in other categories. Also in this category are
27 cathodic protection, inspection and maintenance tool (pig) launcher and receiver installations,

⁷ See December 20, 2013, Response of [SoCalGas] to Data Request in Attachment A of Order Instituting Rulemaking 13-11-006.

⁸ The Information Technologies (IT) costs are shared services, with the bulk of O&M being incurred at SDG&E and the bulk of capital being incurred at SoCalGas. The SoCalGas incurred costs for IT included in the table are not apportioned to SDG&E.

1 meter installations and relocations, leak repairs, new storage wells and upgrades, storage field
2 perimeter security and stormwater control, and general pipeline integrity activities such as aerial
3 photography, in-line inspections, external corrosion detection inspections, and database
4 maintenance. Physical security risk includes sabotage and terrorism, as distinguished from
5 reliability or security in other categories.

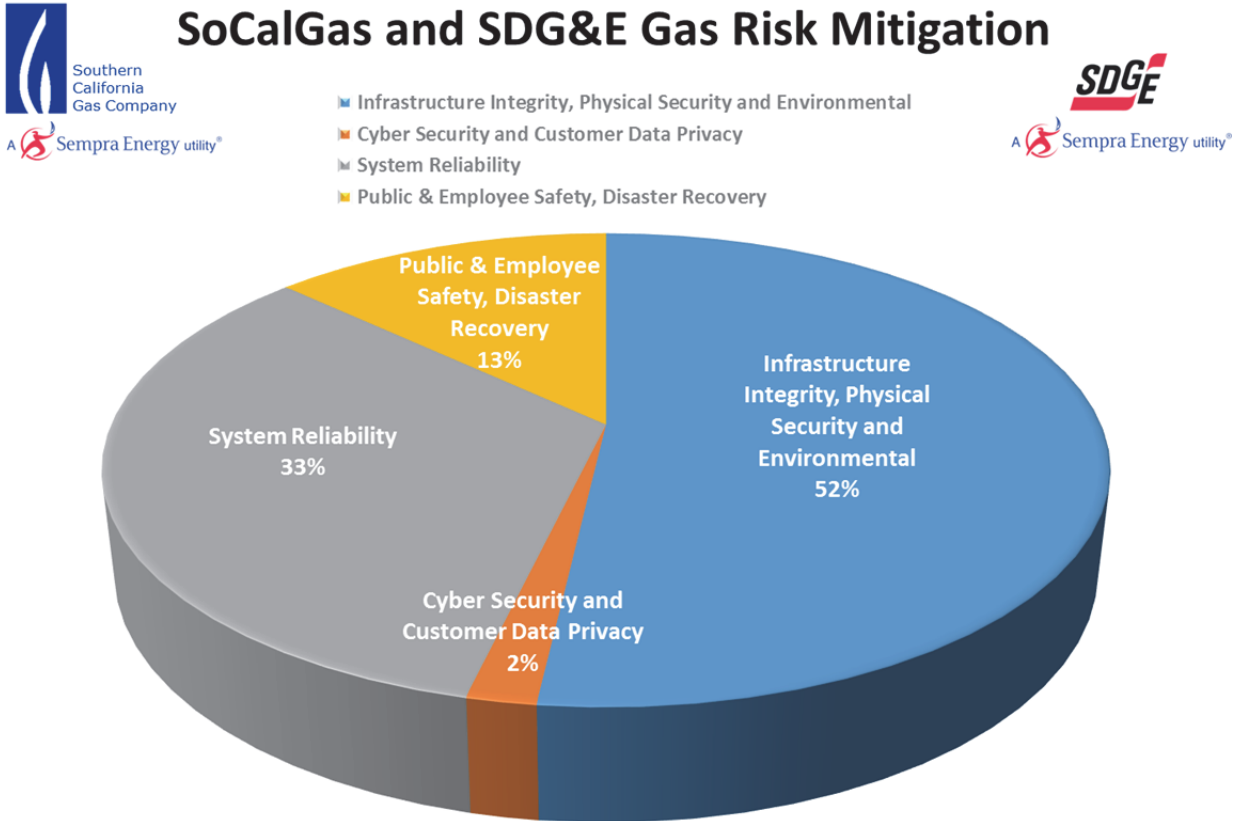
6 **Public & Employee Safety, Disaster Recovery:** This category includes costs directed
7 at mitigating public safety risks not included in other categories, and costs directed at employee
8 safety not included in other categories (for example, training, personal protective equipment and
9 work methods) that do not fall into the other major categories of System Reliability and
10 Infrastructure Integrity. This category also includes costs related to natural disaster preparation
11 and disaster recovery, such as to operate the Gas Emergency Centers.

12 **Cyber Security and Customer Data Privacy:** This category includes costs intended to
13 protect data system integrity and mitigate risks of denial-of-service attacks, and
14 confidentiality/integrity/availability attacks. Also included are the costs of taking physical and
15 electronic precautions to protect customer information.

1 The capital forecasts represent the sum of 2014, 2015 and 2016, while the O&M forecasts
 2 represent TY 2016 expenses. The figures below include gas risk mitigation efforts for both
 3 SoCalGas and SDG&E.
 4

Risk Category	Capital (\$ 000's)	O&M (\$ 000's)
Infrastructure Integrity, Physical Security and Environmental	\$757,015	\$204,410
Cyber Security and Customer Data Privacy	\$31,570	\$1,294
System Reliability	\$502,395	\$115,077
Public & Employee Safety, Disaster Recovery	\$171,274	\$71,312

5



6
7

1 **VI. CONCLUSION**

2 In conclusion, SoCalGas and SDG&E have demonstrated a strong gas operations safety
3 culture that is reflected in our long history of prioritizing and investing in public and employee
4 safety risk management – not only in our day-to-day operations, but in our evaluation of the
5 projects we propose to fund through rates. Through the active management of the design,
6 construction, operation and maintenance of our natural gas system, SoCalGas and SDG&E
7 collect information and employ risk principles to drive maintenance activities and capital
8 investment. SoCalGas and SDG&E have managed risk through our routine operations,
9 maintenance and capital activities and our integrity management programs. SoCalGas and
10 SDG&E are currently further developing formal risk management tools and protocols.
11 SoCalGas and SDG&E are committed to developing an ERM governance structure to become
12 more fully integrated with our existing risk mitigation processes and will demonstrate the
13 evolution of this formal program in future rate cases.

14 SoCalGas and SDG&E are proud of our long history of providing safe and reliable
15 service to our customers at reasonable rates. Through continued innovation, sound investing,
16 and new programs we will maintain our system’s safety and reliability well into the future.

17 This concludes my prepared direct testimony.

1 **VII. WITNESS QUALIFICATIONS**

2 My name is Douglas M. Schneider. I am employed by Southern California Gas Company
3 and San Diego Gas & Electric Company as Vice President – Gas Engineering and System
4 Integrity. My business address is 555 West Fifth Street, Los Angeles, California 90013-1011.

5 I graduated from Rutgers University in 1988 with a Bachelor of Arts degree in Chemistry
6 and from California State University Fullerton in 1993 with a Master of Business Administration
7 degree. I am also a registered professional engineer in California and have over 20 years of
8 industry experience related to pipeline safety and corrosion control.

9 I have been employed by SoCalGas since 2001. In my current position my
10 responsibilities include overseeing the transmission and distribution pipeline integrity programs,
11 natural gas related major construction projects, the gas engineering function and the gas
12 operations support of geographic and maintenance and inspection information systems for
13 Southern California Gas Company and San Diego Gas & Electric Company. My previous
14 experience includes positions of increasing responsibility including Engineering Design
15 Manager, Technical Services Manager, Special Projects Manager, Pipeline Integrity Manager
16 and Director of Pipeline Integrity.

17 I have previously testified before the Commission.

APPENDIX - GLOSSARY

ACRONYM	DEFINITION
ERM	Enterprise Risk Management
DIMP	Distribution Integrity Management Program
IT	Information Technology
NSC	National Safety Council
OSHA	Occupational Safety and Health Administration
PSEP	Pipeline Safety Enhancement Program
PVC	Polyvinyl Chloride
SDG&E	San Diego Gas & Electric Company
SIMP	Storage Integrity Management Program
SLIP	Sewer Lateral Inspection Program
SoCalGas	Southern California Gas Company
TIMP	Transmission Integrity Management Program
TY	Test Year