

Company: San Diego Gas & Electric Company (U 902 M)
Proceeding: 2024 General Rate Case – Track 3
Application: A.22-05-016
Exhibit: SDG&E-T3-PSEP-01

PREPARED DIRECT TESTIMONY OF
MARCO TACHIQUIN
(PIPELINE SAFETY ENHANCEMENT PLAN)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



April 30, 2025

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SUMMARY

PIPELINE SAFETY ENHANCEMENT PLAN			
Reasonableness Review Costs (in \$000s)			
	O&M	Capital	Total
Non-Shared	1,213	239,196	240,409
Shared	-	-	-
Total	1,213	239,196	240,409

Summary of Requests

- Authorize associated revenue requirement of \$50 million for SDG&E's PSEP pipeline and valve enhancement projects completed from 2014-2019 and associated miscellaneous costs. This revenue requirement has been calculated as net of the amounts already recovered in rates via the 50% interim rate recovery mechanism the Commission adopted in D.16-08-003.¹ This work complies with Cal. Pub. Util. Code §§ 957 and 958.
- Find reasonable the costs that form the basis of the requested revenue requirement: \$239 million in Capital and \$1.2 million in O&M associated with after-the-fact SDG&E reasonableness review projects that represent approximately 21 miles of transmission pipeline and six bundled valve projects and associated miscellaneous costs.

¹ D.16-08-003 at 15 (Ordering Paragraph (OP) 2).

**REPAIRED DIRECT TESTIMONY OF
MARCO TACHIQUIN
(PIPELINE SAFETY ENHANCEMENT PLAN (PSEP))**

I. INTRODUCTION

A. Regulatory Background

In Decision (D.) 24-12-074, the California Public Utilities Commission (Commission) approved San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company's (SoCalGas) (collectively, Companies) 2024 General Rate Case. However, the Commission did not authorize the revenue requirement associated with SDG&E's Pipeline Safety Enhancement Plan (PSEP) reasonableness review request presented in Application (A.) 22-05-016. In order to "more fully develop the record of this proceeding," the Commission directed SDG&E to refile for recovery under a separate track (Track 3), identifying specific supporting information that should be presented to aid in determining whether the costs were incurred reasonably.² The purpose of this testimony is to provide updated costs reflecting current amounts in associated balancing accounts, address the Commission's directive to provide additional detail, and provide the appropriate references to this and other testimonies that have been developed to support the revenue requirement request.

B. Affordability in D.24-12-074

SDG&E understands the Commission's concerns with affordability, as shown throughout D.24-12-074.³ My testimony will demonstrate that, in addition to providing the additional detail requested by the Commission to fully develop the record of this proceeding, the PSEP program meets the standard of "reasonable and justified investments" that the Commission considers in meeting its affordability-focused objectives. The below testimony reiterates SDG&E's commitment to affordability through the PSEP program's longstanding practice of "maximizing the cost-effectiveness of safety investments" which has been one of the four primary objectives

² D.24-12-074 at 239.

³ *Id.* at 2 ("California ratepayers are facing an affordability crisis with record-high arrearages and utility bills. The decision carefully weighs ratepayer affordability with the critical task of maintaining safe and reliable electric and gas infrastructure and services."), *id.* at 40 ("...given the current rate levels, customer affordability is a critical factor to consider in this proceeding. The Commission will use the available policy, metrics, and records developed in this proceeding to evaluate each cost request through the lens of affordability, allowing only reasonable and justified investments and costs and disallowing those that provide minimal safety and reliability benefits.").

1 of PSEP since it was approved by the Commission in D.14-06-007. As stated in the original
2 PSEP application: “Having been in the business of providing reliable natural gas service to our
3 customers for over 100 years, we recognize the need to carefully invest in our system in a
4 manner that complements previous investments in our system, avoids short-sighted or reactive
5 actions that could result in unnecessary or duplicative expenditures, and enhances the long-term
6 safety and reliability of our system.”⁴ Some of the specific steps the Companies have taken,
7 expanded on in this testimony, include scope validation efforts, effective PSEP project
8 sequencing, prudent procurement of materials, and use of the Performance Partnership Program
9 to enhance contractor cost-effectiveness. Accordingly, SoCalGas and SDG&E developed the
10 PSEP program in a manner that comports with the reasonable manager standard, exercises
11 prudent program and project oversight, mitigates obstacles to maximize efficiencies and
12 complete construction as soon as possible, and manages costs for the benefit of customers.

13 **C. Updates to Testimony and Workpapers**

14 Due to the amount of time that has passed since A.22-05-016 was filed (May 2022),
15 certain costs have changed. They are updated here to reflect the updated balances in associated
16 regulatory accounts (for more information on the SEEBA and SECCBA accounts in which PSEP
17 costs are tracked, please refer to the testimony of Eric Dalton, Exhibit (Ex.) SDG&E-T3-PSEP-
18 02). The cost updates are immaterial to rates, amounting to approximately \$20K in capital costs
19 for PSEP projects.

20 To respond to the Commission directives for providing additional information as
21 specified in D.24-12-074, SDG&E has revised the testimony and workpapers of the previous
22 witness, Norm Kohls, who I, Marco Tachiquin, am replacing in the current Track of the
23 proceeding. The testimony and workpapers were originally filed with A.22-05-016 as Exhibits
24 SDG&E-08 and SDG&E-08-WP-S Volume I. Additionally, testimony supporting Revenue
25 requirement/AFUDC/Property Tax/Overheads (Eric Dalton) has been developed to support the
26 request. Additionally, since the rate impacts of PSEP cost recovery were included in the overall
27 Rates Design testimony submitted in A.22-05-015, the testimony of Mike Foster contains the

⁴ See R.11-02-019, Amended Testimony of SoCalGas and SDG&E in Support of Proposed Natural Gas Pipeline Safety Enhancement Plan at 3 (Introduction and Executive Summary, Witness Michael W. Allman) (December 2, 2011), *available at*: <https://www.socalgas.com/regulatory/documents/r-11-02-019/Amended%20Testimony-12.2.11.pdf>.

rate impacts of this request. Table MT-1 below presents the additional evidence needed, as identified in the Joint Case Management Statement of SDG&E and SoCalGas and participating intervenors, and where the associated evidence can be found in the exhibits that will be submitted in Track 3, in compliance with D.24-12-074:

Table MT-1
Additional Evidence Requested in D.24-12-074

Evidence to be Provided per Joint Case Management Statement	Testimony/Workpaper Update
Supporting documentation of Indirect Costs related to (1) “Overheads,” (2) AFUDC (including the costs these rates applied to), (3) property taxes (including the property these rates applied to)	The testimony of Eric Dalton addresses overheads and the calculation of AFUDC and property tax. The testimony also explains the rationale for the primary factors that drive actuals for these cost categories, as well as why actual AFUDC and/or property tax can vary from estimated amounts.
A breakdown of Direct Costs and estimates for: (1) Company Labor (including FTEs), (2) Materials, (3) Construction Contractor, (4) Construction Management & Support, (5) Environmental, Engineering & Design, (6) Project Management & Services, (7) Right of Way (ROW) & Permits, and (8) “GMA.”	Full-time equivalents (FTEs) have been added to Section IV.C. of all project workpapers and the corresponding methodology has been described in my testimony in Section IV.B.1. below. ⁵ SDG&E’s project workpapers include a breakdown of the requested direct cost categories. SDG&E has also added Section IV.D. – Cost Impacts to all project workpapers, which provides detailed information pertaining to notable variances for the specified direct cost categories.
An overall explanation of the variance between estimates and costs.	SDG&E has added Section IV.D. – Cost Impacts to all project workpapers, which provides detailed information pertaining to notable variances for the specified direct cost categories. My testimony in Section IV.B.2. below addresses some examples of common drivers of cost variances.

⁵ SDG&E does not possess FTE data for construction contractors.

1 **D. Summary of Costs**

2 This testimony presents for reasonableness review costs associated with completed PSEP
3 projects and other miscellaneous costs primarily incurred from August 2014 to July 2019. The
4 total capital and O&M costs presented for review are \$239.196 million and \$1.213 million,
5 respectively. As discussed in detail in the testimony of Eric Dalton, SDG&E is requesting a
6 revenue requirement amount of \$50 million. This revenue requirement has been calculated as a
7 net of the amounts already recovered in rates via the 50% interim rate recovery mechanism the
8 Commission adopted in D.16-08-003.⁶ In other words, while SDG&E seeks \$239.196 million of
9 capital expenditures and \$1.213 million of O&M expenses to be found just and reasonable,
10 SDG&E is requesting to recover a revenue requirement of approximately \$50 million in rates.

11 The PSEP program, mandated by the Commission in D.14-06-007, is governed by
12 implementing four strategic objectives. These objectives have driven the execution of the PSEP
13 program since its inception. They include (1) enhancing public safety, (2) complying with
14 Commission directives, (3) minimizing customer impacts, and (4) maximizing the cost-
15 effectiveness of safety investments. Hydrotesting and replacing pipelines and enhancing valve
16 infrastructure comprising the costs presented for review comports with these objectives and
17 allows SDG&E to provide its customers with safe, reliable, and affordable energy. SDG&E's
18 efforts to maximize the cost-effectiveness of safety investments are particularly important in
19 light of the Commission's focus on affordability in D.24-12-074. Section III: PSEP Framework
20 below provides a detailed discussion of how the PSEP program achieves cost efficiencies
21 consistent with the Commission's emphasis on affordability in D.24-12-074.

22 The Commission should find the expenditures and associated revenue requirement for
23 this Commission-mandated compliance work reasonable, as shown below and in the other
24 testimony supporting this request. Table MT-2 summarizes my sponsored costs.

⁶ D.16-08-003 at 15 (OP 2).

Table MT-2
SDG&E
Summary of PSEP Reasonableness Review Costs
(Fully Loaded – \$000s)

Testimony Area	Capital	O&M	Total
PSEP Reasonableness Review Projects	238,795	1,085	239,880
Miscellaneous Costs	401	128	529
Total	239,196	1,213	240,409

Note: All PSEP Reasonableness Review costs are fully loaded.

E. Support To and From Other Witnesses

This testimony also references the testimony and workpapers of several other witnesses, either in support of their testimony or as referential support for mine.

1. Ex. SDG&E-T3-PSEP-02 – Overheads/AFUDC/Property Tax/Revenue Requirement (Eric Dalton)
2. Ex. SCG-SDG&E-T3-PSEP-03 – Rate Design (Mike Foster)

F. Organization of Testimony

This testimony is organized as follows:

- Introduction (Section I);
- PSEP Overview (Section II);
- PSEP Framework (Section III);
- PSEP Reasonableness Review Projects and Costs (Section IV);
- Conclusion (Section V);
- Witness Qualifications (Section VI).

II. PSEP OVERVIEW

The primary objectives of PSEP are to (1) enhance public safety, (2) comply with Commission directives, (3) minimize customer impacts, and (4) maximize the cost-effectiveness of safety investments. As directed by the Commission, the SDG&E and SoCalGas PSEP includes an approved risk-based prioritization methodology that prioritizes pipelines located in more populated areas ahead of pipelines located in less populated areas and further prioritizes pipelines operated at higher stress levels above those operated at lower stress levels. To

1 implement this prioritization process, the PSEP is divided into two initial Phases, Phase 1 and
2 Phase 2, and these two phases are subdivided into two parts, Phases 1A and 1B, and Phases 2A
3 and 2B.⁷ The scopes of these phases are described in greater detail in the following subsections.

4 **A. Procedural History and Regulatory Framework**

5 On September 9, 2010, a 30-inch diameter natural gas transmission pipeline ruptured and
6 caught fire in the city of San Bruno, California. In response, on February 24, 2011, the
7 Commission initiated Rulemaking (R.) 11-02-019, creating “a forward-looking effort to establish
8 a new model of natural gas pipeline safety regulation applicable to all California pipelines.”⁸ In
9 a subsequent decision, D.11-06-017, the Commission found that “all natural gas transmission
10 pipelines in service in California must be brought into compliance with modern standards for
11 safety.... Historic exemptions must come to an end with an orderly and cost-conscious
12 implementation plan....”⁹ To achieve this objective, the Commission ordered, “all California
13 natural gas transmission pipeline operators to prepare Implementation Plans to either pressure
14 test or replace all segments of natural gas pipelines which were not pressure tested or lack
15 sufficient details related to performance of any such test.”¹⁰

16 These plans were required to “provide for testing or replacing all such pipeline as soon as
17 practicable”¹¹ and were further required to comply with several specific directives by the
18 Commission, including:

- 19 • “The analytical nucleus of the Implementation Plan will be a list of all
20 transmission segments that have not been previously pressure tested, with
21 prioritized designation for replacement or pressure testing;”¹²

⁷ In addition to these Phases, PSEP projects may also incorporate “incidental” mileage, which includes pipe segments that are not required to be addressed as part of PSEP but are included where it is determined that doing so improves cost and program efficiency, addresses implementation constraints, and/or facilitates continuity of testing.

⁸ R.11-02-019, *Order Instituting Rulemaking (OIR) on the Commission’s Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms* (February 24, 2011) at 1.

⁹ D.11-06-017 at 18.

¹⁰ *Id.* at 19.

¹¹ *Id.*

¹² *Id.* at 20.

- “The Implementation Plan should start with pipeline segments located in Class 3 and Class 4 locations and Class 1 and Class 2 high consequence areas, with pipeline segments in other locations given lower priority for pressure testing;”¹³
- “The Implementation Plan must set forth the criteria on which pipeline segments were identified for replacement instead of pressure testing;”¹⁴
- “Replacements should be prioritized and the prioritization criteria explained;”¹⁵ and
- “The Implementation Plan must also address retrofitting pipeline to allow for in-line inspection tools and, where appropriate, automated or remote controlled shut off valves.”^{16,17}

On August 26, 2011, all California transmission pipeline operators, including SDG&E, filed proposed plans to implement the Commission’s directives. SDG&E and SoCalGas’s proposed plan, the PSEP, included a Decision Tree to 1) guide whether specific pipeline segments should be pressure tested, replaced, or abandoned; 2) provide a list of pipelines for which the Companies had not yet located pressure test records; 3) set a prioritization process to address pipelines in more populated areas ahead of pipelines in less populated areas; 4) provide a valve enhancement plan and a technology plan; and 5) provide preliminary cost forecasts. Line 1600 was included in the list of pipelines to be addressed under PSEP.

In June 2014, the Commission approved SDG&E and SoCalGas’s proposed PSEP but did not pre-approve the costs to implement the plan. Specifically, the Commission “adopt[ed] the concepts embodied in the Decision Tree”, “adopt[ed] the intended scope of work as summarized by the Decision Tree”, and “adopt[ed] the Phase 1¹⁸ analytical approach for Safety Enhancement ... as embodied in the Decision Tree ... and related descriptive testimony.”¹⁹

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.* at 20.

¹⁶ The requirements of D.11-06-017 were later codified at Cal. Public Pub. Utilities Util. Code §§ 957 and 958.

¹⁷ D.11-06-017 at 21

¹⁸ Phase 1 generally refers to the testing or replacement of in-scope transmission pipelines in more populated areas or the replacement of those installed prior to 1946 that cannot accommodate in-line inspection tools. A more detailed discussion of the phases of PSEP is presented further below.

¹⁹ D.14-06-007 at 2, 22, and 59 (OP 1).

1 Because SDG&E and SoCalGas’s PSEP cost estimates were preliminary in nature, rather
2 than pre-approve cost recovery based on those preliminary cost forecasts, the Commission
3 adopted a process for reviewing PSEP implementation costs after the fact prior to authorizing
4 recovery of PSEP implementation costs in rates.²⁰ The Commission further determined that
5 specific categories of PSEP implementation costs would not be recovered in rates (*i.e.*, should be
6 “disallowed”). Specifically, the Commission decided that the following costs may not be
7 recovered in rates:

- 8 • Costs associated with pressure testing pipeline segments installed after January 1,
9 1956, where pressure test records are not available to provide the minimum
10 information demonstrating compliance with the then-applicable industry or
11 regulatory strength testing and record-keeping requirements. In cases where the
12 pipe segment is replaced, an amount equal to the average cost of pressure testing
13 is disallowed;
- 14 • Remaining undepreciated book value for test and replacement projects addressing
15 post-1955 pipe without sufficient records of a pressure test;
- 16 • Costs associated with searching for records of pipeline testing and
17 • PSEP Executive Incentive Compensation.²¹

18 To enable the after-the-fact review of PSEP costs, D.14-06-007 required SDG&E and
19 SoCalGas to establish certain additional balancing accounts (*i.e.*, SECCBAs and SEEBAs, as
20 defined in Section IV.C) to record PSEP expenditures.²² Additionally, to recover PSEP costs,
21 SDG&E and SoCalGas were ordered to “file an application with testimony and work papers to
22 demonstrate the reasonableness of the costs incurred which would justify rate recovery.”²³ In
23 December 2014, SDG&E and SoCalGas filed an application requesting the Commission find the
24 costs incurred to implement PSEP projects reasonable and the associated revenue requirement,
25 recorded in the Pipeline Safety and Reliability Memorandum Accounts before June 12, 2014.
26 The Commission found that SDG&E and SoCalGas’s actions and expenses were reasonable and

²⁰ *Id.* at 59 (OP 2).

²¹ *Id.* at 33-36, 39, 56-58.

²² *Id.* at 60 (OP 4).

²³ *Id.* at 39.

1 consistent with the reasonable manager standard, with one exception related to insurance
2 coverage, and granted the application.²⁴

3 The first of the two reasonableness review applications, A.16-09-005, was filed in
4 September 2016 and included three SDG&E pipeline projects and miscellaneous costs totaling
5 approximately \$15 million. Excluding about \$31 thousand in post-1955 disallowances
6 acknowledged in the filing, all SDG&E project costs presented in the application were ultimately
7 deemed to be reasonably incurred. The second of SDG&E's standalone reasonableness reviews
8 was filed in November 2018 (A.18-11-010), comprising four pipeline projects, four bundled
9 valve projects, and miscellaneous costs totaling approximately \$130 million. In this proceeding,
10 the Commission's final decision deemed more than 99% of the total costs presented for SDG&E
11 reasonable after accounting for disallowances.

12 **B. Commission Directive to Transition PSEP into the GRC**

13 In A.15-06-013 (Application of SDG&E and SoCalGas to Proceed with Phase 2 of their
14 Pipeline Safety and Enhancement Plan and Establish Memorandum Accounts to Record Phase 2
15 Costs), the assigned Administrative Law Judge issued a ruling requesting the parties meet and
16 confer to develop a procedural plan focused on bringing PSEP work within the GRC regulatory
17 process and to develop a comprehensive plan to address PSEP costs expected to be incurred
18 prior to the next GRC test year.²⁵ In resolving SDG&E and SoCalGas's application, D.16-08-
19 003 provided two additional standalone applications for after-the-fact review of the costs
20 incurred to complete Phase 1A projects and one forecast application for authorization to recover
21 the costs of Phase 2 projects. All Phase 1A projects completed after the filing of the two
22 reasonableness reviews and remaining forecasted projects not included in the forecast application
23 were to be submitted for approval in the Test Year 2019 and subsequent GRCs.²⁶

24 As mentioned above, SDG&E projects were filed for cost recovery in the 2016 and 2018
25 Reasonableness Reviews. The 2017 Forecast Application and 2019 GRC did not include any

²⁴ See D.16-12-063, granting A.14-12-016. The decision declined to authorize recovery of costs for PSEP-specific insurance (without prejudice) after determining that SoCalGas and SDG&E did not make a sufficient factual showing in the Application to support the reasonableness of those costs. *Id.*, at 50.

²⁵ See A.15-06-013, *Administrative Law Judge's (ALJ) Ruling Directing Parties to Meet and Confer and Setting Prehearing Conference* (July 24, 2015).

²⁶ D.16-08-003 at 16 (OP 5).

SDG&E PSEP projects, primarily because no Phase 2A mileage exists within the scope of SDG&E's PSEP, and the remaining Phase 1B mileage is associated with the Line 1600 Test or Replacement Plan, which to date has been addressed outside of the GRC.

C. PSEP Scopes

1. Phase 1A

Phase 1A encompasses pipelines in Class 3 and 4 locations and Class 1 and 2 locations in high consequence areas (HCAs) that do not have sufficient documentation of a pressure test to at least 1.25 times the MAOP.²⁷ SDG&E completed all currently identified Phase 1A mileage in 2019, totaling approximately 23 miles²⁸. Phase 2 of the Pipeline Safety and Reliability Project, also known as Line 1600 (A.15-09-013), includes Phase 1A mileage; however, because of the unique characteristics of Line 1600 and the complexity of the project, PSEP Phase 1A and Phase 2A mileage on the line to date has been addressed through A.15-09-013 and has therefore not been included in a GRC filing.²⁹ Construction of this project was completed in July 2024, and the associated costs are anticipated to be presented for after-the-fact review and recovery in the 2028 GRC.

In accordance with D.14-06-007, as amended by D.16-08-003, SDG&E will request cost recovery for any future Phase 1A projects during the implementation of PSEP consistent with the previously established regulatory framework by the Commission and described above.

a. Phase 1 Decision Tree

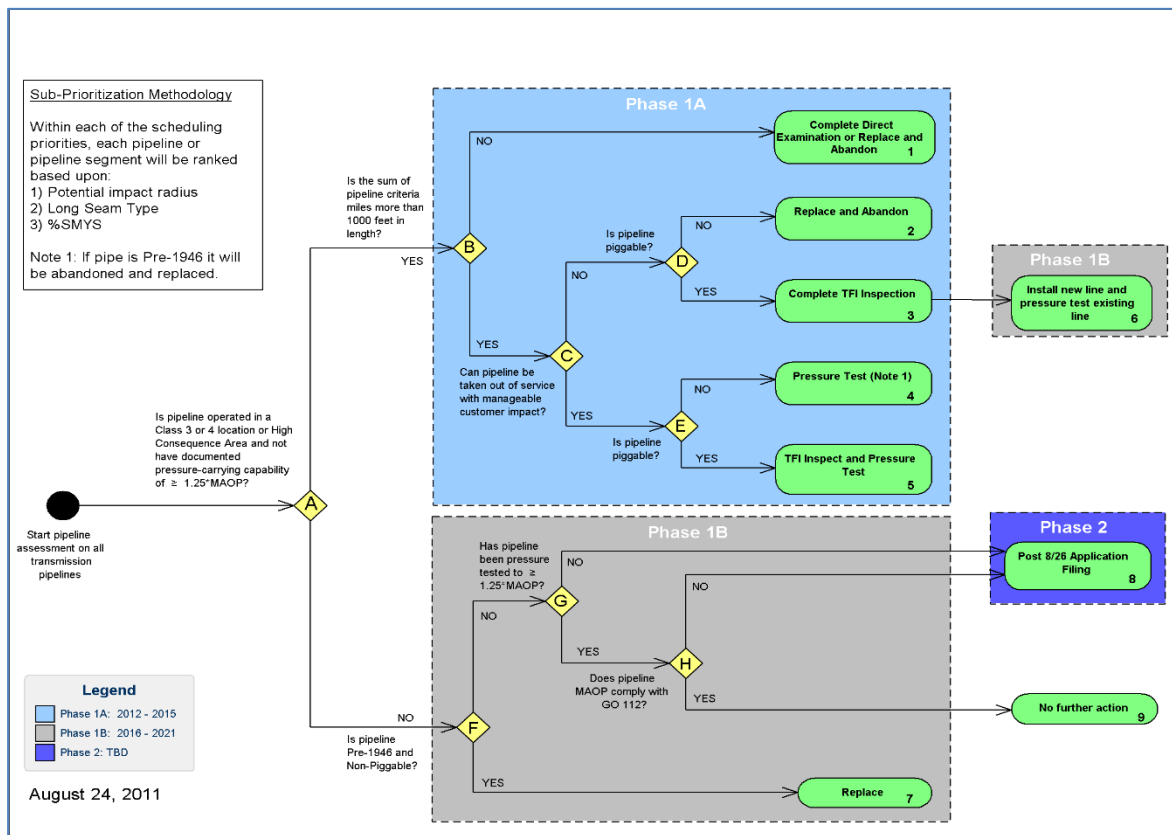
In addressing pipelines set to be tested or replaced through SDG&E's PSEP, a foundational decision is whether to pressure test or replace a particular pipeline segment. SDG&E's Commission-approved Phase 1 Decision Tree methodology guides the pressure test-versus-replace decision-making process and is illustrated below:

²⁷ Class Locations as defined in Part 192.5 of Title 49 of the Code of Federal Regulations.

²⁸ Excludes incidental and accelerated mileage.

²⁹ D.14-06-007 gave SoCalGas and SDG&E the authority to file for pre-approval of specific projects. For tracking and reporting purposes, SDG&E has considered the mileage associated with this project to be Phase 1B.

Figure MT-1: SDG&E PSEP Phase 1 Decision Tree Matrix³⁰



The Phase 1 Decision Tree depicts a step-by-step analysis of pipeline segments to allocate the segments into the following categories: (1) pipeline segments that are 1,000 feet or less in length; (2) pipeline segments greater than 1,000 feet in length that can be removed from service for pressure testing; and (3) pipeline segments greater than 1,000 feet in length that cannot be removed from service for pressure testing without significantly impacting customers. These pipeline categories are then further analyzed to determine other factors impacting whether to pressure test or replace the segment. The additional analysis is based on certain principles used to guide the test-versus- replace decision: (1) SDG&E will not interrupt service to core customers to pressure test a pipeline; (2) SDG&E will work with customers to determine if an extended outage is possible; (3) SDG&E will, where necessary, temporarily interrupt noncore customers, as provided for in their tariffs; (4) SDG&E will work with noncore customers to, where possible, plan service interruptions during scheduled maintenance, down time, or off-peak

³⁰ D.14-06-007 at 22, 59 (OP 1) approved the Decision Tree proposed in SoCalGas and SDG&E's Amended PSEP (R.11-02-019) at 19.

seasons; and (5) SDG&E will consider cost and engineering factors along with the improvement of the pipeline asset. It is important to note that there can be deviations from the Decision Tree because no industry-wide standard definitively controls whether to test or replace a segment in all instances. Because SDG&E will exercise its engineering expertise and knowledge of its pipelines, they are in the best position to make the final determination on a project-by-project basis.

a. Segments Less Than 1,000 Feet

Generally, SDG&E plans to replace pipeline segments that are less than 1,000 feet in length. As embodied in the approved Decision Tree, SDG&E anticipates replacing and abandoning these short segments because replacing them is usually more cost effective. SDG&E may, however, engage in further review during the early planning stage to determine the most appropriate action consistent with Commission and State mandates. Costs and other engineering and constructability factors are considered depending on the situation of each unique pipeline segment. An important additional consideration is that installing new pipe manufactured to modern standards further enhances the safety and reliability of the pipeline system.

b. Segments Greater than 1,000 Feet

Per the Decision Tree, pipeline segments greater than 1,000 feet are further segregated based on whether the pipeline can be taken out of service. Pipeline segments greater than 1,000 feet in length that can be removed from service for pressure testing are generally pressure tested (unless the segment was installed before 1946 and is unpiggable, or other factors indicate replacement should occur). Pipeline segments greater than 1,000 feet in length that cannot be removed from service per the Decision Tree are replaced. Ultimately, the pressure test-or-replace decision is determined to achieve the PSEP objectives to enhance public safety, minimize customer and community impacts, and maximize the cost-effectiveness of safety investments for the benefit of customers.

2. Phase 1B

The scope of Phase 1B, as outlined in SDG&E's PSEP, is to replace non-piggable pipelines installed prior to 1946 with new pipe constructed using state-of-the-art methods and up

1 to modern standards, including current pressure test standards.³¹ There is no remaining pre-1946
2 non-piggable pipe within the SDG&E service territory that falls within the scope of PSEP.

3 **3. Phase 2A**

4 As previously mentioned, PSEP Phase 1 entails pressure testing or replacing
5 transmission pipelines in Class 3 and 4 locations and Class 1 and 2 locations in HCAs that do
6 not have sufficient documentation of a pressure test to at least 1.25 MAOP and replacing non-
7 piggable pipe installed prior to 1946. Whereas Phases 1A and 1B address pipelines located in
8 more populated areas and pre-1946 non-piggable pipe, Phase 2A addresses the remaining
9 transmission pipelines that do not have sufficient documentation of a pressure test to at least
10 1.25 MAOP and are located in Class 1 and 2 non-HCAs. Some sections of Line 1600
11 notwithstanding, there is no pipe within the SDG&E service territory that falls within the scope
12 of Phase 2A.

13 **4. Phase 2B**

14 Phase 2B pipelines have documentation of a pressure test that predates the adoption of
15 federal pressure testing regulations—Part 192, Subpart J of Title 49 of the Code of Federal
16 Regulations (CFR)—on November 12, 1970. For further information regarding PSEP Phase 2B,
17 please refer to the joint Gas Integrity Management Programs testimony of Amy Kitson and
18 Travis Sera presented in Track 1 (Ex. SDG&E-09-R). In their testimony, Phase 2B was
19 proposed to be merged into the Integrated Safety Enhancement Plan (ISEP).

20 **5. Valve Enhancement Plan**

21 In D.11-06-017, the Commission also directed pipeline operators to address the
22 installation of “automated or remote controlled shut-off valves” in their proposed implementation
23 plans.³² In response to this directive, SDG&E and SoCalGas submitted a Valve Enhancement
24 Plan (VEP) as part of their PSEP in R.11-02-019.³³ The VEP works in concert with PSEP’s

³¹ As mentioned above, SDG&E considers the mileage associated with the Line 1600 project as Phase 1B.

³² D.11-06-017 at 21, 30 (Conclusion of Law (COL) 9), and 32 (OP 8).

³³ Beginning in February 2020, the Pipelines and Hazardous Materials Safety Administration (PHMSA) initiated the Valve Installation and Minimum Rupture Detection Standards rulemaking (Valve rule). Activities necessary to comply with the Valve Rule, which fully took effect in 2023, are forecasted in SDG&E’s Test Year 2024 General Rate Case. The Valve Rule will drive additional scope that is incremental to the existing PSEP Valve Enhancement Plan (VEP) as the Valve Rule requirements are applicable to a larger population of pipeline segments than the VEP.

1 pipeline testing and replacement plan to enhance system safety by augmenting existing valve
2 infrastructure to accelerate SDG&E and SoCalGas's ability to identify, isolate, and contain
3 escaping gas in the event of a pipeline rupture. Track 3 of this proceeding includes workpapers
4 associated with six bundled valve projects comprising nine valves. As discussed above, SDG&E
5 submitted valve enhancement projects for review in its 2016 Reasonableness Review and 2018
6 Reasonableness Review.³⁴ As of the submittal of this application, all identified SDG&E valve
7 enhancement plan projects have been completed.

8 **D. Accelerated and Incidental Mileage**

9 As discussed in Section II.A. above, the Commission directed the utilities to develop
10 plans that "provide for testing or replacing all [segments of natural gas pipelines which were not
11 pressure tested or lack sufficient details related to performance of any such test] as soon as
12 practicable,"³⁵ while also "[o]btaining the greatest amount of safety value, i.e., reducing safety
13 risk, for ratepayer expenditures."³⁶ Including accelerated and incidental miles, defined below, is
14 driven by efforts to achieve these goals while also adhering to the objective of minimizing
15 customer impacts.

16 Accelerated miles are miles that would otherwise be addressed in a later phase of PSEP
17 under the approved prioritization process but are advanced to Phase 1A to realize operating and
18 cost efficiencies.

19 Incidental miles are pipeline miles that do not fall within the scope of the Commission's
20 directives in D.11-06-017 or California Public Utilities Code section 958 but are addressed as
21 part of a PSEP project where their inclusion is determined to improve cost and program
22 efficiency, address constructability, or facilitate continuity of testing.³⁷ As of December 31,
23 2021, approximately 2.9 miles of incidental mileage had been addressed in completed PSEP
24 projects (not including Line 1600). Both incidental and accelerated miles are included to
25 minimize customer impacts in response to operational constraints or because of the cost and

³⁴ SoCalGas is also submitting 66 valve enhancement projects for reasonableness review in this GRC.

³⁵ D.11-06-017 at 19.

³⁶ *Id.* at 22.

³⁷ An additional benefit of addressing incidental mileage is to further confirm the integrity of the pipeline.

1 operational efficiencies gained by incorporating them into the project scope rather than
2 circumventing them.³⁸

3 **III. PSEP FRAMEWORK**

4 This testimony section describes the prudent oversight, project execution, and proactive
5 cost management measures taken by SDG&E in the continuing implementation of the PSEP. I
6 will first describe the Reasonable Manager Standard, which serves as a foundational basis for the
7 actions taken by SDG&E and the PSEP organization in its implementation of the program.

8 Then, I will describe how:

- 9 • the PSEP organizational framework promotes prudent program and project
10 oversight;
- 11 • the prudent execution of PSEP projects mitigates obstacles to maximize
12 efficiencies and complete construction as soon as practicable; and
- 13 • SDG&E considers the Commission’s affordability goals as it prudently manages
14 PSEP costs to benefit customers.

15 **A. Reasonable Manager Standard**

16 To comply with the Commission’s directive in D.24-12-074, SDG&E intends to
17 demonstrate that the PSEP costs presented for review were incurred reasonably through the
18 application of the “reasonable manager standard.” The reasonable manager standard was
19 initially articulated in D.90-09-088, which set the basic standards of reasonableness review: “The
20 act of the utility should comport with what a reasonable manager of sufficient education,
21 training, experience and skills using the tools and knowledge at his disposal would do when
22 faced with a need to make a decision and act. The action taken should logically be expected, at
23 the time the decision is made, to accomplish the desired result at the lowest reasonable cost
24 consistent with good utility practices”.³⁹ Similarly, in D.05-01-054, the Commission recognized
25 that “[t]here’s a range of outcomes that defines reasonableness, and it’s based on what the
26 manager knew or should have known **at the time that the decision was made.**”⁴⁰

³⁸ Incidental and accelerated miles may be included in a pressure test or replacement project but are significantly more likely to be addressed in connection with a pressure test project because of the efficiencies realized by pressure testing longer segments of pipeline.

³⁹ D.90-09-088 at 171 (Finding of Fact (FOF) 14).

⁴⁰ D.05-01-054 at 14 (emphasis added).

SDG&E has implemented PSEP according to the reasonable manager standard since its inception which the Commission has recognized in its findings that over 99% of the costs presented for recovery in prior PSEP Reasonableness Reviews have been deemed reasonable. Nevertheless, SDG&E continues to look for ways to improve the cost effectiveness of PSEP in support of the Commission's affordability objectives. In D.14-06-007, which originally adopted the proposed PSEP analytical approach/decision tree and established balancing accounts to record costs for Phase 1 projects, the Commission further commented on the standard of review that would be undertaken consistent with its earlier rulings on the reasonable manager standard: "When SDG&E and SoCalGas file applications to demonstrate the reasonableness of Safety Enhancement they will bear the burden of proof that the companies used industry best practices and that their actions were prudent. This is not a perfection standard: it is a standard of care that demonstrates all actions were well planned, properly supervised, and all necessary records are retained."⁴¹ D.14-06-007 builds upon a similar statement in D.90-09-088, where the Commission found that "the reasonable and prudent act is not limited to the optimum act, but includes a spectrum of possible acts consistent with the utility system need, the interest of the ratepayers, and the requirements of governmental agencies of competent jurisdiction."⁴²

The Commission's use of the terms "perfection standard" and "optimum act" is important to consider in light of the uniqueness and complexity of the PSEP projects included in Track 3, which were subject to various outcomes during their respective life cycles that influenced costs. In each situation, SDG&E properly exercised its engineering and execution experience to achieve the most reasonable, cost-effective outcomes for ratepayers.

B. The PSEP Organizational Framework Promotes Prudent Program and Project Oversight

The following sections describe the processes employed by SDG&E to optimize the cost-effectiveness of PSEP in keeping with the Commission's affordability emphasis in D.24-12-074. The scope of work completed under PSEP and for the projects in the reasonableness review is extensive in terms of the volume of projects, engineering and design complexity, and the time necessary to complete each project. When PSEP was initiated, an organization was created to

⁴¹ D.14-06-007 at 36.

⁴² D.90-09-088 at 171 (FOF 14).

1 provide prudent oversight to manage this large and complex volume of work safely and cost-
2 effectively, incorporate continuous improvement, and manage a large pool of both company and
3 contracted employees.⁴³ This organization oversees PSEP project execution, provides project
4 and process controls during the project life cycle, allows SDG&E to assess each project's budget
5 and schedule, and communicates PSEP progress to stakeholders.

6 The following is an overview of how the PSEP organization promotes prudent program
7 and project oversight.

8 **1. The Implementation of PSEP Is Subject to Prudent Governance by a** 9 **Dedicated Program Management Office and Project Portfolio Team**

10 PSEP is a large and complex program that requires appropriate governance and
11 management to achieve its goal of cost-effectively enhancing safety. The PSEP governance and
12 management strategy must comply with applicable regulatory requirements, continuously
13 improve the program, and establish proper controls and management across PSEP functional
14 areas to verify that each component of a PSEP project, including design, material procurement,
15 construction, and closeout, is performed correctly and consistently.

16 The PMO develops standards and procedures that allow activities to be executed
17 consistently across projects. Through the management and facilitation of the stage gate process,
18 the PMO ensures that the standards and procedures are adhered to, that PSEP projects are
19 consistently executed, and that deviations from standard processes are authorized and
20 documented. A Project Portfolio Team collaborates, coordinates, and provides functional
21 guidance on project design and construction to meet or exceed compliance requirements cost-
22 effectively, follows, as appropriate, industry best practices, and identifies and incorporates
23 process improvements.

24 **2. The Stage Gate Review Process Promotes Efficient PSEP Project** 25 **Oversight and Execution**

26 The Stage Gate Review Process sequences and schedules PSEP project workflow
27 deliverables at the project level. The workflow deliverables are completed at each stage of the

⁴³ In 2019, a Construction organization was created which includes all of the PSEP elements described in this section which were previously contained in a dedicated PSEP organization.

project. The Stage Gate Review Process originally consisted of seven stages,⁴⁴ with specific objectives for each stage and an evaluation at the end of each stage to verify that objectives have been met before proceeding to the next stage.⁴⁵ The following is a brief description of each of the seven stages.

- Stage 1 (Project Initiation): The project team initiates a Work Order Authorization (WOA) to track initial costs and validate the initial scope.
- Stage 2 (Test or Replace Analysis): SDG&E analyzes data to determine whether a pipeline should be addressed through testing or replacement.
- Stage 3 (Begin Detailed Planning): The project execution plan is finalized, baseline schedules and funding estimates are developed, and project funding is obtained.
- Stage 4 (Detailed Design/Procurement): The project team finalizes design and construction documents, secures necessary permits, and completes procurement activities.
- Stage 5 (Construction): The project team monitors scope, cost, and schedule, and construction contractors are mobilized.
- Stage 6 (Place into Service): Commissioning and operating activities are performed to achieve completion certification for the project.
- Stage 7 (Closeout): The project team finalizes project closeout activities.

3. Test Versus-Replace Analysis Supports Prudent Selection of the Execution Option that Will Provide the Most Benefit to Customers

In Stage 2 of the Stage Gate Review Process, SDG&E conducts a test or replacement analysis using the Decision Tree.^{46,47} In undertaking this analysis, SDG&E applies engineering judgment to determine a final execution scope to provide short- and long-term customer benefits. To supplement its Decision Tree methodology and as a part of its scope validation efforts, SDG&E evaluates alternatives to replacements through the deration or abandonment of lines

⁴⁴ The seven-stage Stage Gate Review Process was implemented by the PSEP organization beginning in the First Quarter of 2013. It has since been reduced to five stages that still encompass all the deliverables of the seven stages, by combining Stages 1 and 2 and Stages 6 and 7. All of the projects in this Application were completed following the seven-stage Stage Gate Review Process.

⁴⁵ Evaluations are gate reviews or completion check lists. Certain stages are condensed or combined for valve and small pipeline projects.

⁴⁶ The PSEP Decision Tree was approved by the Commission in D.14-06-007.

⁴⁷ Similarly, a detailed process is used to determine the scope of work of projects under the Valve Enhancement Plan.

1 containing PSEP mileage. Decisions to abandon or operate a line at a reduced pressure are only
2 made after a thorough review to (1) check the ability of adjoining lines to meet current and future
3 load requirements, and (2) to verify that there will be no customer impact or system constraints.
4 Deration and abandonment projects are executed at less cost than replacements as they do not
5 require as much capital investment to implement the project scope. As of February 28th, 2025,
6 SDG&E has abandoned 5.4 miles of PSEP Phase 1A pipe.

7 In addition to evaluating options for testing or replacing the required segments, the
8 project teams also review pipeline information for potential accelerated or incidental mileage that
9 could be included within the scope. Including this mileage supports affordability and other
10 objectives by avoiding future costs and operational impacts that would otherwise be incurred if
11 SDG&E were required to return later to undertake a separate project on the same line. The
12 analysis includes an evaluation of potential customer impacts and a preliminary assessment of
13 the costs to provide alternate means of service during the time that each section would be out of
14 service for construction. SDG&E applies sound engineering judgment to weigh many factors –
15 in addition to identifying a least-cost option – when determining the final scope of a project.

16 **4. The PSEP Project Review Process Prudently Includes Collaboration** 17 **with Relevant Stakeholders**

18 To minimize impacts on customers and communities, it is important to assess how
19 various PSEP project options and approaches may impact SDG&E's transmission system and the
20 customers and communities served. An integral part of the analysis that results in prudent
21 decision-making is the collaboration by PSEP project teams with other knowledgeable groups
22 within SDG&E and SoCalGas (*e.g.*, Region Operations, Gas Engineering, Gas Transmission
23 Planning, Gas Control, Commercial Industrial Services, Regional Public Affairs, Environmental
24 & Land Services, etc.) to route, design, and schedule pipeline and valve work to minimize costs
25 and accommodate capacity impacts or restrictions. For example, these groups provide
26 information to guide project-specific decisions, including (1) the feasibility of shut-ins and
27 alternate feeds to regulator stations or customers, (2) customer and community impacts,
28 (3) planned projects to coordinate with PSEP, and (4) environmental requirements, rights-of-
29 way, and permitting needs. This information is used to help determine the scope and
30 constructability of the project.

1 **5. PSEP Projects Are Integrated with Other Company Projects to**
2 **Achieve Cost and Resource Efficiencies and/or Minimize Customer**
3 **and Community Impacts**

4 Consistent with the Commission’s affordability emphasis in D.24-12-074 and the
5 overarching objectives of PSEP to maximize the cost-effectiveness of safety investments and to
6 minimize customer and community impacts, SDG&E coordinates the execution of PSEP projects
7 with other projects planned throughout their service territories. For example, if an Operating
8 District has plans to do work on the same or an adjacent pipeline, SDG&E coordinates, as
9 feasible, the PSEP project team’s scope and schedule with the Operating District’s scope and
10 schedule to maximize cost and resource efficiencies. This coordination reduces the need for
11 separate construction mobilization, execution, and project management efforts, reducing costs
12 and minimizing customer and community impacts for PSEP and across SDG&E’s operating
13 departments. Efforts have also been made to integrate, whenever possible, a PSEP project with a
14 planned Operating District project that is scheduled for the same line.

15 As mentioned above, a PSEP project may standardize the pipe diameter of a project to
16 facilitate piggability, which may result in an upsizing or downsizing of the pipe diameter. Under
17 such circumstances, where the standardization is to facilitate the constructability of a PSEP
18 project and/or the piggability of the pipeline, such costs are allocated to the PSEP project. On
19 occasion, SDG&E identifies circumstances where it would be beneficial to upsize or downsize
20 the pipe diameter to address system capacity requirements or future planned construction
21 projects. In these cases, SDG&E will modify the project design as part of the PSEP project to
22 address the system capacity requirement or future planned construction project to achieve
23 efficiencies. To reduce overall costs, the PSEP Organization plans and executes the project, and
24 the Operating District funds the portion of the costs attributable to the upgraded materials and
25 additional effort required for the upgrade. For projects included in this filing, no projects
26 required co-funding with the Operating District.

27 **6. PSEP Projects Are Designed and Constructed in Adherence to**
28 **SDG&E Gas Standards to Achieve Compliance with State and**
29 **Federal Laws and Regulations, Promote Safety, and Attain**
30 **Operational Efficiency**

31 PSEP adheres to SDG&E Gas Standards, applicable laws, and regulations to implement
32 compliant safety enhancement work prudently. SDG&E Gas Standards comprise the policies

1 and procedures governing the transmission and distribution systems' design, construction,
2 operations, and maintenance. Thus, in executing each project, the Gas Standards and other
3 internal standards and practices govern the design analysis,⁴⁸ materials purchased,⁴⁹ and
4 construction practices.⁵⁰ The Gas Standards have dual objectives: to drive compliance with
5 applicable laws and regulations and to promote safety and operational efficiency.

6 In addition to SDG&E's own internal oversight efforts, SED has closely interacted with
7 SDG&E in the successful execution of PSEP projects. As ordered by D.14-06-007,⁵¹ SED
8 provides oversight of various aspects of PSEP implementation, emphasizing construction
9 activities and recordkeeping. SED personnel routinely are onsite at PSEP construction projects
10 and monitor compliance with applicable regulations.

11 **7. PSEP considers environmental and social justice issues when** 12 **implementing projects**

13 The PSEP projects included in this testimony have been completed in alignment with
14 SDG&E's Sustainability Strategy and overarching cornerstones related to safety and reliability.
15 The PSEP program has contributed to reducing emissions from natural gas infrastructure by
16 pressure-testing existing pipe and installing new pipelines. These activities enhance the
17 Companies' ability to reduce fugitive emissions associated with the day-to-day operation of these

⁴⁸ PSEP design standards and practices address materials to be used and proper design in accordance with GO 112-F and applicable federal laws and regulations. PSEP design standards and practices enable: (1) the development of specific engineering requirements for materials used in PSEP projects; (2) preparation of designs that comply with applicable laws, permits, SDG&E's gas standards, and industry standards; (3) utilization of applicable engineering and design standards developed for PSEP; (4) consistent design and material requirements for the various engineering design firms contracted to assist with design development; and (5) the development of a project-specific design basis for each PSEP project.

⁴⁹ Once the PSEP project has been scoped, designed, and approved, materials are ordered that comply with SDG&E's Materials Specifications for Gas Operations (MSPs).

⁵⁰ Construction is subject to extensive standards, practices, and guidelines. SDG&E has implemented comprehensive standards that address, among other areas, excavation, coating application and inspection, welding, welding inspection, trenching, cover, and pressure testing. Prior to starting work, as a part of the agreement with the contractor, contractors are provided an index of standards, practices, guidelines, and requirements, and, as applicable, contractors are provided updates.

⁵¹ D.14-06-007 at 29 ("Specific to SDG&E and SoCalGas's Safety Enhancement we delegate to Safety Div. the specific authority to directly observe and inspect the testing, maintenance and construction, and all other technical aspects of Safety Enhancement to ensure public safety both during the immediate maintenance or construction activity and to ensure that the pipeline system and related equipment will be able to operate safely and efficiently for their service lives.").

1 pipelines and help mitigate the risk of an in-service pipeline rupture and associated emissions
2 resulting from such an event. The installation of remote shut-off valves (RSVs), which detect
3 drops in gas pressure (an indication of a leak or rupture), remotely isolating that section of the
4 pipeline and thus avoiding leakage or release of fugitive emissions into the atmosphere, is
5 another way PSEP has contributed to ongoing emissions reduction efforts while also enhancing
6 the safety of the system. Finally, PSEP has also contributed to emissions reductions through gas
7 capture technology during construction activities, which has been employed extensively in recent
8 years to reduce the burden of vented gas. Together, these activities supplement SDG&E's
9 emissions reduction goals without being a stated goal of the PSEP program.⁵² These efforts also
10 comport with the Commission's ESJ Action Plan (Action Plan)⁵³ which includes improvements
11 to local air quality.⁵⁴

12 PSEP's construction activities also comport with the Commission's Action Plan in other
13 ways.⁵⁵ The Commission created the ESJ Action Plan to serve as a commitment to furthering
14 ESJ principles and to provide an operating framework with which to integrate ESJ considerations
15 throughout the Commission's work.⁵⁶ While SDG&E supports the nine overarching goals
16 included in the Action Plan, not all of these goals directly apply to investor-owned utility
17 operations, programming or projects, as the Action Plan goals were developed with the
18 Commission's operating framework in mind. PSEP aligns with Action Plan Goal 5, "*Enhance*
19 *Outreach and Public Participation Opportunities for ESJ Communities to Meaningfully*
20 *Participate in the CPUC's Decision-Making Process and Benefit from CPUC Programs.*" One
21 of the key objectives under Goal 5 is to enhance engagement and address the needs of ESJ
22 communities, which are foundational to the PSEP framework.⁵⁷ As stated below, PSEP's capital

⁵³ CPUC, *Environmental & Social Justice Action Plan – Version 2.0* (April 7, 2022), available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf>.

⁵⁴ *Id.* at 23 (Goal number two, "Increase Investment in Clean Energy Resources to Benefit ESJ Communities, Especially to Improve Local Air Quality and Public Health").

⁵⁵ CPUC, *Environmental & Social Justice Action Plan – Version 2.0* (April 7, 2022), available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf>.

⁵⁶ *Id.* at 2.

⁵⁷ See additional discussion in Section III.C.4.

1 outreach team performs community engagement activities to promote awareness of current and
2 upcoming PSEP construction activities. This outreach serves to better inform members of the
3 communities in which PSEP projects take place and educate them about the safety and reliability
4 enhancements that will come to their community.

5 More broadly, the Action Plan’s definition of an ESJ community highlights “disparate
6 implementation of environmental regulations and socioeconomic investments in their
7 communities.” PSEP equitably manages impacts to the environment in the communities it serves
8 by appropriately accounting for environmental concerns as an integral part of its project
9 implementation efforts across all project locations—regardless of whether it is in an ESJ
10 Community or not. SDG&E has a dedicated environmental services team and environmental
11 contractors that constitute a key stakeholder group within the PSEP framework. The
12 environmental team is engaged throughout the project lifecycle to review proposed project
13 activities and locations to determine potential impacts on environmental resources, monitor and
14 implement appropriate mitigation measures during construction, and coordinate post-
15 construction restoration to minimize or avoid PSEP’s environmental footprint and align with
16 permit authorizations received from environmental agencies.⁵⁸ This environmental review
17 process is a key element of SDG&E’s Stage Gate methodology, which requires that the same
18 actions are taken to address environmental impacts on every PSEP project regardless of service
19 territory location. The consistency SDG&E achieves in the application of this approach is a
20 central tenet of the PSEP framework that promotes equal consideration of environmental impacts
21 across all communities. This approach prevents PSEP from leading to more disparate
22 implementation of environmental regulations and socioeconomic investments, thereby furthering
23 the Action Plan.

24 **C. Prudent Execution of PSEP Projects Mitigates Obstacles to Maximize** 25 **Efficiencies and Complete Construction as Soon as Practicable**

26 Pipeline and valve projects are complex and require thoughtful orchestration. Many
27 internal and external factors must align to begin construction. SDG&E’s execution and
28 management teams balance competing risks when authorizing a project team to mobilize for
29 construction. Many factors determining when SDG&E can begin construction are not in the

⁵⁸ SDG&E’s Habitat Conservation Plan offers specific environmental protections.

1 direct control of SDG&E. Most can be anticipated and planned for to a certain degree, and those
2 that cannot are addressed as they occur.

3 For example, restrictions on when construction can begin must be determined and
4 adhered to. Cities may have moratoriums during heavy traffic periods or their own renovation
5 work; Environmental restrictions may be imposed to prevent adverse impacts to protected
6 wildlife species during the breeding season; PSEP may need to work in concert with a large
7 customer's planned outage or low usage period; Gas Control may have restrictions on when the
8 pipeline can be taken out of service; or the system may have seasonal pressure requirements.
9 Permits, land rights, and materials must be acquired. Availability of construction contractors,
10 inspectors, specialty equipment, construction oversight personnel, and regional operations
11 personnel must be considered. As a result, it is not uncommon for project teams to be engaged in
12 last-minute efforts to acquire a permit or land rights or material, or to reschedule the construction
13 start date due to the planned construction crew being delayed from completing another project,
14 or to sectionalize a project so that a portion of the work can be initiated.

15 Other factors can influence construction timing and scheduling, such as seasonal
16 limitations during winter or summer conditions that may restrict when a line can be taken out of
17 service. Also, although customer and capacity impacts are vetted during Stage 3 (Detailed
18 Planning) of the Seven Stage Review Process described above, unanticipated system or customer
19 issues may be encountered that could delay a project. For example, if a project as planned
20 requires a pipeline segment to be taken out of service for a period of time, and a different
21 pipeline previously assumed to be available to serve customers is taken out of service, a project
22 may be delayed, or a previously unplanned provision of an alternate supply (CNG/LNG) to serve
23 customers may be required. Alternatively, when most but not all obstacles have been addressed,
24 the project team may decide to sectionalize the project and delay construction for only a portion
25 of the project in order to execute the majority of the project as soon as practicable.

26 The following are examples of some of the common obstacles encountered when
27 executing major pipeline projects such as PSEP.

28 **1. Permitting and Temporary Land Right Acquisition**

29 With respect to utility construction projects, and more specifically, pipeline projects,
30 there is a significant difference between projects that are completely or mostly performed on
31 private land ("behind the fence") and those that are "linear projects" (*i.e.*, located in public

rights-of-way). In the latter, since SDG&E does not own the land, various permits and rights must be obtained for construction to occur. PSEP pipeline and valve projects are primarily linear projects located in franchised rights-of-way (*i.e.*, streets) but also on private and federal land. These varying locations require the need to acquire numerous permits and negotiate with private landowners.

Further, while some projects, such as those located within existing SDG&E facilities, do not typically require extensive permitting, others, depending on the location, may require multiple additional permits because of impacts to natural and other resources (*e.g.*, water, wildlife, cultural resources, etc.) to those required by agencies with impacted land rights, such as the U.S. Navy/Department of Defense or Caltrans. These permits/agreements have long lead times, can trigger environmental review and mitigation, and can restrict projects to certain schedules. At a minimum, PSEP projects require a permit from the municipal agency where the replacement or hydrotest is being executed before a project can commence construction. Although SDG&E factors in anticipated permit processing time based on experience in the project planning process, unanticipated delays beyond the time anticipated to acquire a permit can and do occur. Further, projects located on private land require permission from the owner and acquisition of temporary land rights for construction to proceed.

2. Material Availability

Given the unprecedented level of pipeline work, not only at SDG&E but at other California utilities, material availability has been an issue that has impacted cost and schedule. SDG&E has purchased, when appropriate, bulk quantities of commonly used pipe fittings and pipe to have adequate material available for projects. Bulk purchases result in better pricing as opposed to purchasing material on a project-specific basis. However, certain materials are not purchased “off the shelf” and must be made-to-order or modified to fit conditions. Examples are valves with extensions, vaults to house equipment underground, and instrument cabinets. Manufacturing delays occur due to capacity limitations caused by increased demand for pipeline material at a regional and national level. Most items require inspection to determine whether the ordered materials meet company specifications. When items do not meet specifications, they need to be modified, or new items need to be acquired. This may result in extra time that may delay the start of construction.

3. Unforeseen Factors Encountered During Construction

Despite due diligence in the planning and engineering design phase, unforeseen factors encountered during construction may increase the complexity of projects and cause projects to take longer than planned. Some unknown conditions can only be identified after construction begins and the pipe is exposed, such as actual pipe condition, unknown substructures, or unfavorable soil conditions. This is particularly true for older developed areas, such as the dense urban locations of many PSEP Phase 1 pipelines, because requirements for substructure recordation were not as stringent historically as they are today. Additionally, governmental records (originally in paper form) may have been lost over the years. Coordination with other utilities can sometimes delay project schedules. Unidentified substructures usually require pipeline routing changes. Unanticipated soil changes (*i.e.*, loose sandy soil rather than more cohesive soil or excessively rocky subsurface conditions that inhibit boring efforts) may require a change in excavation or shoring methods. SDG&E conducts potholing and geologic investigations to ascertain the subsurface conditions of a project site, but despite reasonable efforts to locate them, they may not be discovered until major groundwork is initiated during the construction effort. In some cases, these various types of challenges may even require demobilization from the project site to redesign certain project elements.

4. Proactive Community Outreach Efforts to Minimize Community and Customer Impacts

Phase 1A projects are located in more densely populated areas. As such, proactive community outreach efforts—to inform customers, elected officials, and government entities about PSEP projects taking place in their communities—are an integral part of SDG&E prudent execution of PSEP to minimize community and customer impacts, manage costs, and implement PSEP as soon as practicable. Numerous meetings have been held with elected officials and municipal agencies to provide advance notice and ongoing updates regarding PSEP projects. Additionally, SDG&E established a PSEP webpage, which provides information about construction activities and project status to give customers and stakeholders easier access to information.

The Community Relations team works closely with external stakeholders early in the planning stages to identify and help remove potential obstacles and roadblocks that could affect PSEP project execution and maintain a positive customer experience by mitigating the effects of construction with targeted communications and efforts to fully inform external stakeholders prior

1 to PSEP construction activity. Additionally, Community Relations maintains good relationships
2 with external stakeholders, including community-based organizations, Home Owners'
3 Associations, Chambers of Commerce, Associations, and local media to reach sensitive
4 communities and customers.

5 These various outreach efforts were instrumental in avoiding project delays and, in some
6 instances, resulted in less onerous permitting conditions imposed on PSEP projects, which
7 helped minimize costs and benefited customers.

8 **D. SDG&E Prudently Manages PSEP Costs for the Benefit of Customers**

9 As previously explained, the scope of PSEP, as authorized in D.14-06-007 and D.16-08-
10 003, is extensive, complex, and costly. The PSEP project teams look for ways to promote
11 affordability by avoiding costs and exercising diligence through (1) scope validation efforts,
12 (2) sequencing PSEP projects to maximize efficiency and productivity, (3) prudent procurement
13 of materials to achieve reasonable market-based costs for customers; and (4) use of the
14 Performance Partnership Program to further enhance construction contractor cost-effectiveness.
15 SDG&E has put in place controls and measures to manage costs, maximize customer value, and
16 execute projects cost-effectively. This has been achieved through scope validation, competitive
17 procurement efforts, coordination with internal and external groups, and other cost-avoidance
18 actions.

19 **1. Scope Validation Efforts Have Identified Cost Avoidance** 20 **Opportunities**

21 A key first step in project execution is the scope validation efforts conducted in Stage 1
22 (Project Initiation). SDG&E does not proceed with PSEP projects without first performing due
23 diligence to verify the project scope through diligent scope validation activities. From the initial
24 phase of a PSEP project, the PSEP management team identifies the potential for cost avoidance
25 when studying the proposed project. To do this, the project team reviews data from the initial
26 PSEP application and internal databases to validate project mileage. Through this scope
27 validation step, mileage reduction may be accomplished through the critical assessment of
28 records, reduction in MAOP, or abandonment of lines that were no longer required from an
29 overall gas operating system perspective.⁵⁹ To date, the Companies have utilized these methods

⁵⁹ Lines are only abandoned after a thorough review of the ability of adjoining lines to meet current and future load requirements and to verify there will be no customer impact or system constraints.

to descope approximately 254 Phase 1A miles from the PSEP program, effectuating significant cost savings for customers.

2. Sequencing PSEP Projects to Maximize Efficiency and Productivity

SDG&E strategically schedules construction projects to keep company and contractor workforces fully productive, thereby maximizing the cost-effectiveness of the PSEP workforce. Construction start dates are tentatively slated months in advance to maintain a steady workflow to the construction teams. The various functional groups that support the execution of a project are consulted prior to these dates being proposed. The expected construction completion dates of projects are monitored closely so that new projects can start soon afterward.

3. Through Prudent Procurement, SDG&E Achieves Reasonable and Market-Based Costs for the Benefit of Customers

SDG&E continues to minimize PSEP project execution costs through cost-avoidance efforts that focus on efficiencies identified in the engineering and design process through efficient procurement practices, coordination and scheduling effectiveness, and construction execution. To promote the reasonableness of these costs, PSEP relies heavily on proven supply management techniques and strategies to acquire materials and services. SDG&E uses established selection processes, creates incentives for contractors, and imposes cost controls to provide safety enhancement to customers at reasonable and market-based costs. PSEP maintains guidelines for preparing, soliciting, evaluating, awarding, and administering contracts and subcontracts that supply PSEP with qualified and best-value contractors, subcontractors, and vendors.

SDG&E's sourcing objective is to utilize competition to achieve market-based rates. As such, the majority of PSEP agreements entered for materials and services have been either competitively bid or were set at market-based rates stemming from previous competitive solicitations. In other words, in addition to individual bidding events, as appropriate, PSEP agreements were executed leveraging terms and conditions and rates from existing agreements. This avoids administrative costs, uses previously negotiated rates, and furthers the goal of completing the work as soon as practicable.

Where possible, SDG&E acquires materials for PSEP projects by aggregating material needs from multiple projects and making periodic buys for larger quantities of materials. These efforts better enable SDG&E to obtain favorable pricing. Project-specific buys are also done to

1 account for specific design parameters. Generally, project-specific buys are executed at each
2 major design phase to address time constraints and reduce costs. For example, long lead-time
3 items are identified early for sourcing. As appropriate, items may be transferred between
4 projects to reduce last-minute buys and shipping costs. Regardless of the type of order, material
5 bids are designed to obtain multiple quotes for the best pricing options, promote work with select
6 firms for process efficiency, and encourage the development of local resources and sourcing.

7 **4. The Performance Partnership Program Further Enhances** 8 **Construction Contractor Cost-Effectiveness**

9 The Performance Partnership Program allows PSEP Construction Contractors to enter
10 into competitive bidding for batches of projects as opposed to one at a time. A Performance
11 Partner is a qualified alliance contractor willing to partner with SDG&E by using their unique
12 experience and expertise to seek more efficient ways of executing projects and share in the cost
13 savings. This provides numerous benefits for customers by providing competitive market prices,
14 avoiding administrative costs for successive individual bids, engaging construction contractors in
15 longer-term agreements for numerous projects (which lowers costs by hiring a sustained
16 workforce with less downtime and allowing contractors to work with the same internal
17 engineering teams for a more collaborative effort),⁶⁰ and providing contractors an incentive to
18 bid for the work competitively and agree to additional cost-control mechanisms (since the
19 winning bidder is awarded more than just one project). Although SDG&E implemented the
20 Performance Partnership Program to execute PSEP, the PSEP organization retains the discretion
21 to conduct competitive solicitations or to single-source work to acquire contractors for any PSEP
22 project where it is determined that it may benefit customers to do so.⁶¹

23 Under the Performance Partnership Program, each project constructed by a Performance
24 Partner is subject to a target price risk/reward mechanism. This mechanism establishes a target
25 price agreed upon by SDG&E and the Performance Partner. The target price provides the

⁶⁰ These efforts also mitigate the risk of insufficient trade labor and supervisory resources (leading to direct cost savings through efficient dispersal and logistics of regional work) and better enable construction personnel to provide valuable engineering and design recommendations.

⁶¹ For example: (1) in order to diversify the assignment of work (instead of limiting it to four construction partners); (2) as a separate tool to validate costs incurred by the performance partners (providing yet another rate by which to compare Performance Partner performance); and (3) allow other construction contractors who were not selected as Performance Partners the opportunity to bid on projects, which helps sustain their viability in the SDG&E service territory.

1 Performance Partner with a cost incentive to efficiently perform the project because it stands to
2 share both reduced and excess costs. However, the Performance Partner is not entitled to any
3 profits when costs exceed 20% of the target price. By this sharing mechanism, SDG&E realizes
4 cost savings for the benefit of ratepayers that would not exist under traditional competitively bid
5 contracts.

6 **IV. PSEP REASONABLENESS REVIEW PROJECTS AND COSTS**

7 **A. Introduction**

8 The purpose of this section of this testimony is to present for reasonableness review the
9 activities associated with the projects completed primarily between August 2014 and July 2019,
10 representing work on approximately 21 miles of transmission pipeline and nine valves and
11 associated miscellaneous costs. Through the prudent execution of the seven pipeline and six
12 bundled valve projects, SDG&E complied with the directives in D.11-06-017 and subsequent
13 Commission decisions, as well as Cal. Pub. Util. Code §§ 957 and 958.

14 This section demonstrates SDG&E's prudence in executing its PSEP and the
15 reasonableness of the costs presented for recovery. Our actions have enhanced safety, complied
16 with Commission and statutory directives, minimized impacts on customers and communities,
17 and avoided and reduced costs for the benefit of customers. SDG&E acted as a reasonable
18 manager of PSEP by carefully considering information that was known at the time decisions
19 were made and exercised experienced professional judgment in decision-making, and therefore,
20 the total costs should be deemed reasonable and the requested revenue requirement should be
21 approved.

22 **B. Commission-Identified Updates**

23 To comply with D.24-12-074, SDG&E has revised its supplemental workpapers
24 supporting the revenue requirement request to include additional information. These
25 Commission-identified updates include the inclusion of Full Time Equivalents (FTEs) and cost
26 variance descriptions that have been added to workpapers for projects that exceeded estimated
27 amounts. FTEs and cost variances are addressed in Sections IV.C. and IV.D., respectively, of all
28 supplemental project workpapers

29 **1. Full-Time Equivalents (FTEs)**

30 The Commission issued the following directive in D.24-12-074 regarding calculating
31 FTEs: "The FTEs were not provided for company labor or the construction contractors. To the

1 extent that any other direct cost components include labor, SDG&E's supporting data lacks the
2 cost of labor and associated FTEs to describe them."⁶² For a traditional GRC forecast, SDG&E's
3 General Rate Case Integrated Database (GRID) calculates the number of FTEs as a function of
4 the labor cost forecast for specific forecasted expenditures. The FTEs provide context for the
5 forecasted company labor dollars by representing a calculated number of employees needed to
6 carry out the requested expenditures.⁶³ This information is displayed in the GRID-generated
7 workpapers submitted with the GRC application. For PSEP reasonableness review projects,
8 FTEs have not been provided historically since the focus of past applications has been on
9 justifying the reasonableness of the expenditures by explaining how various projects were
10 planned and executed rather than providing a basis for a forecast. To satisfy the requirements of
11 D.24-12-074, SDG&E has included FTEs⁶⁴ in the supplemental workpapers submitted in this
12 application (provided as Ex. SDG&E-T3-PSEP-01-WP1).

13 The calculation of FTEs for completed projects was performed as follows:

- 14 • The total hours charged to a project by company employees were calculated for
15 the years a project was active;
- 16 • The total workable hours were calculated for the same time period using the
17 standard assumption of 8-hour working days, 5 days per week, and proportionally
18 adjusted for the first year and last year in which the project was active;
- 19 • The total charged hours were divided by the total workable hours to derive the
20 "Unadjusted FTE";
- 21 • Vacation and Sick (V&S) factors for SDG&E are consistent with those presented
22 in 2024 GRC Track 1;
- 23 • The maximum V&S value was isolated for the time period in which the project
24 was active;
- 25 • The Unadjusted FTE was multiplied by the maximum V&S factor to derive the
26 average number of FTEs directly charging to a project throughout its lifecycle⁶⁵;

⁶² D.24-12-074 at 231.

⁶³ The calculation of FTEs includes overtime hours. Therefore, if one employee works 60 hours per week, he or she would be recorded as 1.5 FTEs.

⁶⁴ FTEs are not provided for construction contractors since SDG&E does not possess this information.

⁶⁵ The FTE calculation excludes General Management and Administration (GMA) costs, which are non-project specific charges that are incurred to support the implementation of the PSEP program.

2. Cost Variances

In D.24-12-074 the Commission also directed the Companies to provide information on cost variances showing: “a sufficient breakdown of Direct Costs, such as Company Labor (including FTEs), Materials, Construction Contractor, Construction Management & Support, Environmental, Engineering & Design, Project Management & Services, Right of Way (ROW) & Permits, and GMA.”⁶⁶ SDG&E has included this additional information about the cost drivers which help to explain the variances between estimated amounts and actual costs in the supplemental workpapers submitted herewith (provided as Ex. SDG&E-T3-PSEP-01-WP1).

As explained in the workpaper introduction accompanying SDG&E’s supplemental workpapers, the workpapers contain estimated amounts for various cost categories compared to actual costs incurred. The estimated amounts are derived from a Total Installed Cost (TIC) estimate.⁶⁷ Consistent with industry-standard estimating practices established by the Advancement of Advance of Cost Engineering International (AACEi),⁶⁸ the TIC is classified within the Class 3 level, which is characterized by a maturity level of 10-40% (more typically 30%) and an estimate accuracy range of -20% on the low end to +30% on the high end⁶⁹. According to AACEi, the Class 3 level end use is appropriate to form the basis for budget authorization, appropriation, and/or funding and “to support full project funding requests and become the first of the project phase control estimates against which all actual costs and resources will be monitored for variations to the budget.”⁷⁰ AACEi also states: “[Class 3 estimates] are used as the project control budget until replaced by more detailed estimates. In many owner organizations, a Class 3 estimate is often the last estimate required and could very well form the only basis for cost/schedule control.”⁷¹ Once the TIC is finalized, SDG&E moves

⁶⁶ D.24-12-074 at 232-233.

⁶⁷ TIC estimate is synonymous with “Estimate at Completion”, which is defined as: “an estimate of the total cost an activity or group of activities will accumulate upon final completion.” AACEi International Recommended Practice No. 10S-90, Cost Engineering Terminology, *available at*: <https://library.aacei.org/terminology/welcome.shtml#E>.

⁶⁸ AACEi is an industry-leading association of cost estimating professionals.

⁶⁹ AACEi, *Recommended Practice No. 97R-18 Cost Estimate Classification System - As Applied in Engineering, Procurement, and Construction for the Pipeline Transportation Infrastructure Industries* (AACEi RP 97R-18) (August 7, 2020) at 4, 10.

⁷⁰ *Id.*

⁷¹ *Id.* at 10.

1 forward with budget authorization through the Work Order Authorization (WOA) process. The
2 TIC, which includes direct costs only, is supplemented with indirect costs, which are calculated
3 subject to the process described in the testimony of Eric Dalton (Ex. SDG&E-T3-PSEP-02);
4 together the direct and indirect costs are combined into the Phase 2 WOA. The approval of the
5 Phase 2 WOA by PSEP leadership is required to proceed with the execution of the project.⁷²

6 In aggregate, the portfolio of seven SDG&E pipeline projects presented for review was
7 approximately \$47 million or 26 percent above the estimated amount (\$229 million actual versus
8 \$182 million estimated). The SDG&E valve portfolio of six projects was approximately \$7
9 million or 37 percent below the estimated amount (\$11 million actual versus \$18 million
10 estimated). As directed by the Commission in D.24-12-074, the revised workpapers provide
11 explanations for these variances on an individual project basis.

12 Variances from estimated amounts are expected for construction projects. As mentioned
13 above, the accepted accuracy range for a TIC/Class 3 estimate is -20% to +30%. This range
14 reflects that TIC estimates are generated when the project has yet to advance through detailed
15 design. As such, the project scope can and will change during later stages, such as detailed
16 design and construction. To develop TICs, the Companies' dedicated estimating department
17 utilizes the expertise and professional judgment of subject matter experts in the various
18 functional areas to provide input that informs a project's overall cost. These inputs have been
19 refined over time due to the experience the Companies have gained, taking into account the
20 many cost drivers realized during the detailed design and construction phases of myriad PSEP
21 projects. Earlier iterations of the estimating tool did not benefit from this experience and
22 associated lessons learned; therefore, some of the earlier projects completed by SDGE, including
23 some that are a part of Track 3, may have experienced greater variances than more recent
24 projects.

25 Notwithstanding the rigor the Companies have built into the estimating process, estimates
26 remain estimates, and each PSEP project is unique. As such, foreseeable and unforeseeable
27 conditions may be encountered during construction, resulting in actual expenditures varying

⁷² Any significant project activities and costs subsequently added to the project scope after execution of the TIC—such as during detailed design or construction—would not be reflected in the estimated costs presented in the supplemental workpaper. These additional costs and activities are authorized and documented through the scope change process. If these additional costs exceed a certain threshold, a reviewed Work Order Authorization must be obtained.

1 from estimates. Furthermore, several years may lapse between completing the detailed project
2 cost estimates included in this filing and the start of construction. During this time period,
3 construction, contractor, and material costs may change, new environmental regulations may be
4 enacted, and other external forces may come into play that may impact what is a reasonable
5 project cost estimate today. The recent COVID-19 global pandemic exemplifies how costs can
6 be driven upward by added health and safety protocols.

7 Some of the projects included in Track 3 typify the various reasons for deviations from
8 estimated amounts. The largest overspending variances are typically associated with prolonged
9 construction durations that arise from challenges experienced in the field that were reasonably
10 not anticipated at the time of the initial estimate. While SDG&E makes every effort during the
11 estimating and design process to account for risks to the construction schedule and associated
12 costs, certain situations arise during the normal course of construction that cannot be predicted
13 and which can cause major delays to the construction effort. For example, despite reasonable
14 efforts to conduct potholing and geologic investigations to ascertain the subsurface conditions of
15 a project site, unanticipated conditions may be encountered that cause deviations from planned
16 trenching or boring methods under existing roads, railways, water crossings or other physical
17 impediments to pipeline installation. In some cases, these challenges may even cause the need to
18 demobilize from the project site to redesign certain project elements. In these situations, the
19 increase in construction costs also increases costs in other areas tied to the construction effort.
20 For example, a longer construction duration means that all the support staff, comprising both
21 company labor and contractors, will also have increased costs due to the need to provide their
22 specific services over a longer period of time. This is true for company labor, engineering
23 support, construction management, environmental services, and project management services. A
24 protracted construction effort also impacts indirect costs. As explained further in the testimony
25 of Eric Dalton (Ex. SDGE-T3-PSEP-02), indirect costs such as overheads can increase the longer
26 a project is active. AFUDC, which is interest that SDG&E earns for funds used during
27 construction for capital projects and Property Tax for construction work in progress (CWIP) for
28 capital projects, continues to compound and increase with the project timeline.

29 Please see the supplemental workpapers for explanations of project-specific variances
30 that address the unique nature of each project.

1 **C. Reasonableness Review Projects and Costs**

2 SDG&E prudently executed seven PSEP pipeline and six valve bundle projects. This
3 Application presents the reasonableness of the \$239 million in capital expenditures and \$1.2
4 million in O&M expenditures incurred in executing the projects and the reasonableness of \$0.5
5 million in expenditures for other associated miscellaneous costs incurred to execute PSEP.
6 These costs amount to a revenue requirement balance, net of costs already in rates, as of
7 December 31, 2024 of \$50 million, as discussed in the testimony of Eric Dalton (Ex. SDGE-T3-
8 PSEP-02). The following section includes a discussion of the project cost components,
9 summaries of project-related and miscellaneous costs, disallowed project costs, and a
10 reconciliation of the “as filed” mileage compared to the actual mileage.

11 The costs in this chapter provide the basis for determining the revenue requirements
12 recorded in SDG&E’s Safety Enhancement Capital Cost Balancing Accounts (SECCBAs), the
13 Safety Enhancement Expense Balancing Accounts (SEEBAs), and the Line 1600 Records Audit
14 Memorandum Account (L1600RAMA). This testimony and workpapers demonstrate that these
15 PSEP costs were reasonably incurred, and the associated revenue requirements are justified for
16 rate recovery.

17 To facilitate the review process and ease of reference, detailed information for each
18 project is included in the supporting project workpapers. The revised workpapers consist of over
19 350 pages of support that the amounts presented for cost recovery are reasonable and support the
20 Commission’s affordability goals. The information contained in this testimony is designed to
21 provide a summary of the projects and associated costs.

22 **1. Project Cost Components**

23 The costs presented in this testimony are those incurred through December 2024. The
24 revenue requirement balance as of December 31, 2024, associated with these costs is described
25 in the testimony of Eric Dalton (Ex. SDGE-T3-PSEP-02). The project costs include costs
26 incurred in direct support of individual hydrotest, replacement, or abandonment projects and
27 other miscellaneous costs. The testimony of Eric Dalton addresses other indirect cost categories
28 such as AFUDC and property tax.

29 Project costs may include capital and O&M expenditures, depending on the project’s
30 specifics. For example, the majority of work associated with pressure testing is considered
31 O&M. As part of the normal pressure testing process, however, a section of the existing pipeline

1 is removed to accommodate the temporary test heads that are used to conduct the pressure test.
2 After the line is tested and the temporary test heads are removed, a new section of pipe is
3 installed to “tie-in” the just-tested segment to the pipeline on either end of the segment. The tie-
4 in pipe is new pipe and is capitalized in accordance with SDG&E’s accounting policy.⁷³ Other
5 capital costs typically associated with hydrotests are due to short replacements identified by
6 SDG&E’s Pipeline Integrity team that are necessary to address anomalies prior to the hydrotest
7 or to allow for future inline assessment through the use of smart pigs.⁷⁴

8 The project costs included in the revenue requirement request are fully loaded. They
9 include both direct and indirect costs that are charged and/or allocated to projects. The cost
10 categories that reflect the direct costs portion of the total costs, and which are displayed in the
11 supplemental workpapers submitted with this testimony, include:

- 12 • Company Labor: Labor costs for SDG&E employees charging directly to the
13 project, such as project managers, engineers, land services personnel,
14 environmental services personnel, communication and outreach managers,
15 construction managers, and field support personnel.
- 16 • Materials: Costs for materials that SDG&E purchased to complete the project,
17 such as piping, valves, fittings, and other miscellaneous materials. Materials
18 planned to be purchased by the construction contractor may be included in the
19 construction contractor costs.
- 20 • Construction Contractor: Costs for Construction Contractor activity and materials
21 or equipment acquired by the contractor. The actual Construction Contractor
22 costs include authorized change order costs and risk-reward payments minus
23 construction credits, when applicable.
- 24 • Construction Management and Support: Costs for construction inspection,
25 contamination mitigation, environmental monitoring, hydrotesting services, and
26 other miscellaneous activities that occur in the field.
- 27 • Environmental: Costs for environmental assessments, monitoring, asbestos
28 abatement, water and waste management, and miscellaneous environmental
29 permits and fees not reflected in other cost categories.
- 30 • Engineering and Design: Costs for planning and design services, engineering,
31 environmental services, land use and permitting fees not included in other
32 categories, and project support, such as survey, mapping, and miscellaneous
33 expenses.

⁷³ In accordance with SDG&E’s accounting policy, replaced segments less than 40 feet in length are treated as O&M.

- Project Management Services: Contracted costs for project management services and general PSEP program support.
- General Administration Costs (GMA): Programmatic PSEP costs.

The supplemental workpapers also include indirect costs. Indirect costs are incremental overheads applied to PSEP projects. Indirect costs are for those activities and services associated with indirect costs – such as payroll taxes, pension, and benefits. Also included is interest that SDG&E earns for funds used during construction for capital projects (AFUDC) and Property Tax for construction work in progress (CWIP) for capital projects. For additional information on these cost categories, please refer to the testimony of Eric Dalton (Overheads/AFUDC/Property Tax/Revenue Requirement).

2. Summary of Project Costs

a. Pipeline Replacement Projects

Table MT-2⁷⁵
Replacement Projects
Summary of Capital and O&M Costs (in \$000s)

Project	Capital	O&M	Total
49-1 Replacement Project	64,347	-	64,347
49-17 East Replacement Project	72,380	-	72,380
49-17 West Replacement Project	37,512	-	37,512
49-32-L Replacement Project	8,292	-	8,292
La Mesa Gate Station Replacement Project	5,560	-	5,560
Total	188,092	-	188,092

b. Combination Replacement & Pressure Test Projects

Table MT-3
Combination of Replacement and Pressure Test Projects
Summary of Capital and O&M Costs (in \$000s)

Project	Capital	O&M	Total
49-16 Replacement and Hydrotest Project	37,058	1,085	38,143
Total	37,058	1,085	38,143

c. Abandonment Projects

Table MT-4
Abandonment Projects

⁷⁵ Totals may not match due to rounding.

Summary of Capital and O&M Costs (in \$000s)

Project	Capital	O&M	Total
Line 49-28 Abandonment Project	2,379	-	2,379
Total	2,379	-	2,379

d. Valve Projects

**Table MT-5
Valve and Valve Bundle Projects
Summary of Capital and O&M Costs (in \$000s)**

Project	Capital	O&M	Total
49-11 Valve Enhancement Project	2,145	-	2,145
49-16 Valve Enhancement Project	2,291	-	2,291
49-18 Mission Valley Valve Enhancement Project	867	-	867
49-23 Valve Enhancement Bundle	2,644	-	2,644
49-32 Valve Enhancement Project	2,497	-	2,497
1601 Valve Enhancement Project	823	-	823
Total	11,267	-	11,267

3. Miscellaneous Costs

SDG&E has also incurred various miscellaneous costs that were necessary to execute PSEP. Table NK-6 includes a summary of these costs:

**Table MT-6
Summary of Miscellaneous Costs
(in \$000s)**

Cost Type	Capital	O&M	Total
Facilities Lease Credit ⁷⁶	-	(8)	(8)
Post-Completion Adjustments	401	-	401
L1600 Records Audit	-	136	136
Total	401	128	529

a. Post Completion Construction Cost Adjustments

Post-completion cost adjustments in the amount of \$401,075 associated with lines presented for review in A.16-09-005 and A.18-11-010 are included for recovery in this section. Post-completion adjustments occur when invoices or accounting adjustments are processed after the filing of an application for an after-the-fact reasonableness review. Despite the best efforts of

⁷⁶ This amount is a facilities' rental fee adjustment after the PSEP office closed in 2016.

SDG&E to capture all items during the close-out process, post-completion adjustments occur that may result in increased or decreased costs. For the costs presented herein, the primary categories of post-completion adjustments are trailing charges including contractor invoices, accrual reversals, company labor, and journal entry adjustments.

b. L1600 Records Audit

As directed by D. 18-06-028, the commission required SDG&E to “file a Tier 1 Advice Letter requesting a memorandum account to record costs associated with the audit of the Line 1600 records.”⁷⁷ Further, the Commission directed its Safety and Enforcement Division (SED) to select an independent auditor at SDG&E’s expense and oversee an audit of Line 1600 records to help identify any inconsistencies within Utilities’ sources of safety data. SDG&E is seeking the recovery of the \$136,079 associated with Line 1600 records audit to comply with the commission’s directive.⁷⁸

4. Disallowed Costs

In D.14-06-007, the Commission approved SDG&E’s proposed PSEP, with some limited exceptions. D.14-06-007 (as modified by D.15-12-020) ordered that certain specified costs discussed below would be disallowed from recovery in rates. Table MT-7 summarizes the disallowed costs relevant to the projects presented for review in this section.

Table MT-7
Summary of Disallowed Costs (in \$000s)

Disallowance Type	Total
Post-1955 PSEP Costs	3,472
Undepreciated Book Balances	-
Executive Incentive Compensation	-
Records Search	-
Total	3,472

5. PSEP Mileage Reconciliation

As required by D.14-06-007, a reconciliation of the “as filed” mileage with the actual mileage that was pressure tested, replaced, or abandoned is included in Table NK-8 below for the

⁷⁷ D.18-06-028 at 129.

⁷⁸ *Id.* at 99.

1 projects presented in the reasonableness review.⁷⁹

2 **Table MT-8**
3 **Pipeline Projects Mileage Summary**

Line	As Filed (Miles)	Included in this Filing	
		(Miles)	(Feet)
Supply Line 49-16 Replacement	9.590	1.099	5,805
Supply Line 49-17 East Replacement	5.812	5.244	27,690
Supply Line 49-17 West Replacement	5.812	1.671	8,826
Supply Line 49-32-L Replacement	N/A	0.203	1,071
Total	21.214	8.217	43,392

4 **V. CONCLUSION**

5 This testimony supports SDG&E's request to recover in rates a revenue requirement of
6 \$50 million associated with approximately \$240 million in total capital and O&M costs incurred
7 in the prudent execution of PSEP projects from 2014-2019 in compliance with Cal. Pub. Util.
8 Code §§ 957 and 958. SDG&E should be authorized to fully recover these costs, excluding
9 disallowances acknowledged in Section IV.C.4. SDG&E has acted as a reasonable manager
10 while incurring these costs in order to complete PSEP work in accordance with Commission
11 mandates and State law. In so doing, SDG&E has executed PSEP consistently with the
12 Commission's statements on affordability in D.24-12-074 and the four overarching objectives of
13 PSEP:

- 14 • Enhance public safety: PSEP projects have been completed consistently with
15 applicable rules, regulations, laws, and SDG&E's internal policies and
16 procedures.
- 17 • Comply with the Commission's directives: PSEP efforts have been consistent
18 with Commission instructions to proceed "as soon as practicable" and have
19 worked with SED in their oversight role.
- 20 • Minimize customer impacts: Projects were completed while maintaining service
21 to core customers and with minimal planned outages for commercial and
22 industrial customers.
- 23 • Maximize the cost-effectiveness of safety investment: SDG&E reasonably
24 avoided costs, obtained market-based contractor and material rates, used the
25 necessary amount of internal and external resources, and prudently designed,
26 engineered, and executed PSEP projects.

⁷⁹ The "as filed" mileage is consistent with that contained in the workpapers included with the SoCalGas and SDG&E Amended PSEP Application filed in December of 2011.

1 In Track 3 of this proceeding, the Commission, as in several other prior PSEP-related
2 proceedings, should find that SDG&E has executed PSEP prudently and has implemented and
3 executed PSEP consistent with the requirements of D.14-06-007. The costs presented for review
4 and recovery in this Application are reasonable, and the associated revenue requirements
5 submitted for recovery should be recovered in rates.

6 This concludes my prepared direct testimony.

1 **VI. WITNESS QUALIFICATIONS**

2 My name is Marco A. Tachiquin. I am employed by San Diego Gas & Electric Company
3 (SDG&E) as the Manager of Gas Transmission Operations. My business address is 4949
4 Greencraig Lane, San Diego, California 92123.

5 I joined SoCalGas in 1999 as an Engineer and have worked in several diversified areas of
6 the utility business with increasing leadership responsibility. While at SoCalGas, I have held
7 various positions in the functional areas of Gas Operations and Engineering. These areas include
8 Gas Transmission Operations, Region Engineering (Distribution), Distribution Operations, Gas
9 Engineering, Gas Storage Operations, and the PSEP. Other areas include Project Management,
10 Construction Services, Special Projects, and Field Operations. I was the Gas Transmission
11 Portfolio Manager at SoCalGas's PSEP between 2014 and 2021.

12 In November of 2023, I accepted my current role at SDG&E as Manager of Gas
13 Transmission Operations. My current management responsibilities include oversight of
14 SDG&E's Gas Transmission Operations and all project execution activities related to the PSEP,
15 L1600 Test or Replacement Plan, Pipeline Integrity, Gas Transmission Technical Services, and
16 the Gas Transmission Safety Rule. As part of my role, I am responsible for the development of
17 the scope, detailed design and engineering, construction planning, construction management,
18 cost and schedule management, and close out of all Gas Transmission projects. I am also
19 responsible for cost recovery of previously completed PSEP work at SDG&E. In 1999, I earned
20 a Bachelor of Science Degree in Chemical Engineering with a Minor in Corrosion from
21 California State Polytechnic University, Pomona. I also acquired an Associate of Science
22 Degree in Material Science from Don Bosco Technical Institute in 1992. I have over 26 years of
23 engineering and management experience in the utility industry.

24 I have not previously testified before the California Public Utilities Commission.

25 This concludes my prepared direct testimony.

APPENDIX A
GLOSSARY OF TERMS

Acronym	Definition
CFR	Code of Federal Regulations
CNG	Compressed Natural Gas
CPUC	California Public Utilities Commission
GHG	Green House Gas
GRC	General Rate Case
ISEP	Integrated Safety Enhancement Plan
L1600RAMA	Line 1600 Records Audit Memorandum Account
LNG	Liquid Natural Gas
O&M	Operations & Maintenance
PHSMA	Pipeline and Hazardous Materials Safety Administration
PSEP	Pipeline Safety Enhancement Plan
RAMP	Risk Assessment Mitigation Phase
SDG&E	San Diego Gas & Electric Company
SECCBA	Safety Enhancement Capital Cost Balancing Accounts
SED	CPUC's Safety Enforcement Division
SEEBA	Safety Enhancement Expense Balancing Accounts
SoCalGas	Southern California Gas Company