SDG&E-02-WP-A

Amended Workpapers Supporting the Prepared Direct Testimony of Elaine Weim and Travis T. Sera

(Technical – Project Execution and Management)

[PUBLIC VERSION]

I. INTRODUCTION

The purpose of the workpapers is to describe the activities undertaken to address the unique aspects of each Transmission Integrity Management Program (TIMP) project and details the final project costs that resulted from those activities.[1]

The workpapers are discussed in more detail in the next three sections as follows:

- Section II comprises of **SDG&E's In-Line Inspection (ILI) TIMP Workpaper Structure.** This section describes the workpaper format for the 13 ILI TIMP Projects.
- Section III comprises of **SDG&E's Direct Assessment TIMP Workpaper Structure.** This section describes the workpaper format for the 11 Direct Assessment TIMP Projects.
- Appendix A contains the **SDG&E's TIMP Glossary of Acronyms and Terms** that will assist in defining specific construction and financial terminology used throughout the workpapers and testimonies.[2]

[1] Workpapers were only prepared for ILI projects costing at least $1 million and Direct Assessment projects that primarily incurred costs from January 1, 2019, to December 31, 2023

[2] Prepared Direct Testimony of Travis Sera (Chapter I) and Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II)

II. SDG&E TIMP IN-LINE INSPECTION (ILI) WORKPAPER STRUCTURE

The project workpapers listed in Table 1 provide a detailed review of 13 ILI projects completed as part of the TIMP.[3] Project costs incurred during the Test Year 2019 General Rate Case (GRC) cycle from January 1st, 2019, through December 31st, 2023, are included in this Application to align with the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II).

The Table of TIMP ILI Projects provide a summary of relevant data for each project included in this Application: Project Name and Total loaded costs (O&M and Capital).

Table 1 – TIMP ILI Projects[4]

Project Name	Capital Costs	O&M Costs	Total Cost
Line 1600 Phase 1 [redacted]	1,411,190	2,923,684	4,334,874
Line 1600 Phase 2 [redacted]	2,671,044	4,389,412	7,060,456
Line 1601 [redacted]	947,930	5,689,461	6,637,391
Line 1603 [redacted]	406,296	1,514,098	1,920,394
Line 3010 Phase 1 [redacted]	453,912	2,677,662	3,131,574
Line 3010 Phase 2 [redacted]	1,700,313	4,209,919	5,910,232
Line 3011 Phase 1 [redacted]	42,276	1,831,583	1,873,859
Line 3011 Phase 2 [redacted]	811,182	566,712	1,377,894
Supply Line 49-14 [redacted]	1,546,583	554,968	2,101,550
Supply Line 49-16 [redacted]	6,502,193	475,388	6,977,580
Supply Line 49-18 [redacted]	1,244,574	626,450	1,871,024
Supply Line 49-18 [redacted]	31,129,502	11,526,682	42,656,183
Supply Line 49-24 [redacted]	1,365,046	1,939,040	3,304,086

Each workpaper is divided into five sections: I) Background and Summary; II) Engineering, Design and Constructability; III) Construction; IV) Project Costs; and V) Conclusion. An outline for each section's purpose is provided below:

A. BACKGROUND AND SUMMARY

This section includes a high-level summary of the project scope for the Inspection(s), Direct Examination(s) and Post-Assessment. The summary is accompanied with *Table 1: General*

[3] These workpapers only include ILI projects with a total cost of at least $1 million incurred between January 1, 2019, and December 31, 2023.

[4] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.

Project Information, providing overall project details. In addition, satellite imagery is included to provide perspective of the project locations.

B. Engineering, Design, and Constructability

1. Project Scope

The Project Scope section of the TIMP workpaper summarizes the activities that occurred during the Inspection, Direct Examination, and Post-Assessment steps.

2. Engineering, Design and Constructability Factors - Inspection

This section identifies the key factors that influenced the engineering and design of the project in preparation for and during construction activities. These key factors are obtained from performing a Pre-Assessment engineering analysis, determining existing conditions and any impacts to the project, confirming the appropriate inspection methods, and selecting the inspection tools.

Key factors that influenced the engineering and design for the Inspection(s) may include:

- Site Description – describes overall site locations for the launcher and receiver configurations also identifying if the project included permanent and/or temporary assemblies.
- HCA Threats – identifies the current integrity threats associated with the pipeline.
- Pipe Vintage – indicates the vintage of inspected pipeline segments.
- Long Seam Type – states the long seam type of the pipeline.
- Inspection Tools and Technology – details the inspection tools and technologies utilized to evaluate the threats identified on the pipeline.
- Inspection Retrofits – describes the required installations, removals, and changes completed on the pipeline system prior to the assessment in order to facilitate current and future inspections.
- System Analysis – details the pipeline system review results that consists of information on the feasibility of the project and identifies potential impacts or dependencies it may have on the natural gas system.
- Customer Impacts – describes the impact, if any, to customers should a curtailment be necessary.
- Community Impacts – describes the construction activity impact on the neighboring community.

- Substructures – describes the underground utilities and other known and unknown substructures that were identified and incorporated in the project design.
- Environmental – details environmental assessments, monitoring, miscellaneous environmental permits and fees not reflected in other cost categories.
- Permit Restrictions – lists the known jurisdictional agencies in the construction area and any significant impacts that these permit restrictions had on the project.
- Land Use – describes the property and easement requirements needed for work areas, laydown yards, and accesses to project locations.
- Traffic Control – describes the traffic control measures utilized for the project.
- Schedule Delay – describes various factors that contributed to a delay in the project timeline.
- Constructability – describes the factors that influenced the project design such as geographic constraints, existing substructures, adjacent highways, railroads, waterways, etc.
- Other Identified Risks – describes other extenuating circumstances that influenced the overall project design and construction not reflected in other categories.

3. Engineering, Design and Constructability Factors – Direct Examination

This section summarizes the engineering analysis conducted during the Direct Examination process step and identifies the key factors that influenced the design and engineering of the project.

- Engineering Assessment – Summarizes the Direct Examinations that were selected either to assess the pipeline segment(s) that could not accommodate an ILI tool or for validation of the ILI tool and their corresponding mitigation/remediations required.
- SRC/IRC – Identifies which Direct Examinations, if any, contained a Safety Related Condition (SRC) and/or an Immediate Repair Condition (IRC).
- System Analysis – details the pipeline system review results that consists of information on the feasibility of the project and identifies potential impacts or dependencies it may have on the natural gas system.
- Customer Impacts – describes the impact, if any, to customers should a curtailment be necessary.
- Community Impacts – describes the construction activity impact on the neighboring community.

- Substructures – describes the underground utilities and other known and unknown substructures that were identified and incorporated in the project design.
- Environmental – details environmental assessments, monitoring, miscellaneous environmental permits and fees not reflected in other cost categories.
- Permit Restrictions – lists the known jurisdictional agencies in the construction area and any significant impacts that these permit restrictions had on the project.
- Land Use – describes the property and easement requirements needed for work areas, laydown yards, and accesses to project locations.
- Traffic Control – describes the traffic control measures utilized for the project.
- Schedule Delay – describes various factors that contributed to a delay in the project timeline.
- Constructability – describes the factors that influenced the project design such as geographic constraints, existing substructures, adjacent highways, railroads, waterways, etc.
- Other Identified Risks – describes other extenuating circumstances that influenced the overall project design and construction not reflected in other categories.

4. Engineering, Design and Constructability Factors – Post-Assessment

This section summarizes the results of the in-depth engineering analysis from the ILI and Direct Examination steps and identifies whether additional required preventative and mitigative measures are required to enhance the integrity and safety of the pipeline.

- Engineering Analysis – Describes the Post-Assessment sites identified after data analysis of the Inspection and Direct Examinations and the required mitigation/remediation that was completed.
- SRC/IRC – Identifies which Direct Examinations, if any, contained a Safety Related Condition (SRC) and/or an Immediate Related Condition (IRC).
- System Analysis – details the pipeline system review results that consists of information on the feasibility of the project and identifies potential impacts or dependencies it may have on the natural gas system.
- Customer Impacts – describes the impact, if any, to customers should a curtailment be necessary.
- Community Impacts – describes the construction activity impact on the neighboring community.

- Permit Restrictions – lists the known jurisdictional agencies in the construction area and any significant impacts that these permit restrictions had on the project.
- Constructability – describes the factors that influenced the project design such as geographic constraints, existing substructures, adjacent highways, railroads, waterways, etc.
- Substructures – describes the underground utilities and other known and unknown substructures that were identified and incorporated in the project design.
- Environmental – details environmental assessments, monitoring, miscellaneous environmental permits and fees not reflected in other cost categories.
- Traffic Control – describes the traffic control measures utilized for the project.
- Land Use – describes the property and easement requirements needed for work areas, laydown yards, and accesses to project locations.
- Schedule Delay – describes various factors that contributed to a delay in the project timeline.
- Other Identified Risks – describes other extenuating circumstances that influenced the overall project design and construction not reflected in other categories.

C. Construction

1. Construction Contractor Selection

This section describes SDG&E's utilization of Construction Contractor(s) that best met the criteria for the Project.

2. Construction Schedule

This section consists of a *Construction Timeline – (Inspection/Direct Examination/Post-Assessment)* table depicting the inspection due date, construction start date, and completion date for the Project. For projects with a SRC and/or an IRC, an additional table is provided to reflect the discovery date and repair date for each site. Images are also included to provide insight into the various field conditions of the project.

3. Commissioning and Site Restoration

This section describes site restoration activities that are typically completed after the pipeline is returned to normal operating conditions. Closeout activities are executed within the final months of the project lifecycle.

D. PROJECT COSTS

1. Cost Efficiency Actions

This section describes specific examples of actions by the Project Team to increase cost efficiencies and maximize project activities. Cost efficiency actions may include, but are not limited to, the bundling of projects, schedule coordination, shared land use, and enhancements to the project design.

2. Actual Costs

The Actual Direct Costs shown in the *Actual Direct Costs Table* in the TIMP project workpapers are defined as follows:

- Company Labor – Labor costs for SDG&E employees charging directly to the project, including but not limited to, project managers, engineers, land services personnel, environmental services personnel, communication and outreach managers, construction managers, and field support personnel.
- Contract Costs – External labor costs, including but not limited to, Construction Contractor, Engineering Services, Environmental Services, and Land Services.
- Material – Costs for materials purchased by SDG&E to complete the project, such as piping, valves, fittings, and other miscellaneous materials.
- Other Direct Charges – Other costs not included in Company Labor, Contract Costs, or Material (e.g. permits and government fees, other services).

Indirect Costs are listed in the *Actual Indirect Costs Table*. These costs are incremental overheads applied to TIMP projects but aren't recorded in the TIMPBA. Indirect costs are for those activities and services that are 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.

III. SDG&E TIMP DIRECT ASSESSMENT WORKPAPER STRUCTURE

The project workpapers listed in Table 2 provide a detailed review of 11 Direct Assessment projects completed as part of the TIMP, which include External Corrosion Direct Assessments (ECDA) and Stress Corrosion Cracking Direct Assessments (SCCDA).[5] Project costs incurred during the Test Year 2019 General Rate Case (GRC) cycle from January 1st, 2019, through December 31st, 2023, are included in this Application to align with the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II).

The Table of TIMP Direct Assessment Projects provide a summary of relevant data for each project included in this Application: Project Name, Assessment Type and Total loaded costs (O&M and Capital).

Table 2 –TIMP Direct Assessment Projects[6]

Project Name	Capital Costs	O&M Costs	Total Cost
Line 1602	190,104	581,807	771,911
Line 1604	0	896,475	896,475
Line 3012	0	561,590	561,590
Supply Line 49-13	696,697	5,928,343	6,625,040
Supply Line 49-15	698,923	1,186,370	1,885,293
Supply Line 49-18 & Supply Line 49-16	626,281	1,982,431	2,608,713
Supply Line 49-18	4,233,901	2,843,934	7,077,835
Supply Line 49-21	42,096	711,724	753,819
Supply Line 49-24	268,653	1,730,354	1,999,007
Supply Line 49-31	61,617	2,191,710	2,253,327
Supply Line 49-32	0	646,241	646,241

Each workpaper is divided into five sections: I) Background and Summary; II) Engineering, Design and Constructability; III) Construction; IV) Project Costs; and V) Conclusion. An outline for each section's purpose is provided below:

A. BACKGROUND AND SUMMARY

This section includes a high-level summary of the project scope for Direct Assessment of the selected pipeline. The summary is accompanied with *Table 1: General Project Information*,

[5] These workpapers are only for Direct Assessment projects that primarily incurred costs from January 1, 2019, to December 31, 2023.

[6] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.

providing overall project details. In addition, satellite imagery is included to provide perspective of the project locations.

B. Engineering, Design, and Constructability

1. Indirect Inspection

This section follows the engineering analysis performed in Pre-Assessment and discusses the key factors that impacted the indirect inspection. Key factors include an environmental analysis of above-ground conditions for the survey area, potential community and customer impacts, and other factors.

Key factors that influenced the engineering and design for the Indirect Inspection(s) may include:

- System Analysis – details the results of a pipeline system review that provides information on the feasibility of the project and identifies potential impacts or dependencies it may have on the natural gas system.
- Customer Impacts – describes the impact, if any, to customers should a curtailment be necessary.
- Community Impacts – describes the construction activity impact on the neighboring community.
- Permit Restrictions – lists the known jurisdictional agencies in the construction area and any significant impacts that these permit restrictions had on the project.
- Environmental – details environmental assessments, monitoring, miscellaneous environmental permits and fees not reflected in other cost categories.
- Other Identified Risks – describes other extenuating circumstances that influenced the overall project design and construction not reflected in other categories.

2. Direct Examination

This section discusses the key factors that influenced the planning and execution of the project Direct Examinations and may include:

- System Analysis – details the results of a pipeline system review that provides information on the feasibility of the project and identifies potential impacts or dependencies it may have on the natural gas system.
- Customer Impacts – describes the impact, if any, to customers should a curtailment be necessary.

- Community Impacts – describes the construction activity impact on the neighboring community.
- Permit Restrictions – lists the known jurisdictional agencies in the construction area and any significant impacts that these permit restrictions had on the project.
- Environmental – details environmental assessments, monitoring, miscellaneous environmental permits and fees not reflected in other cost categories.
- SRC/IRC – Identifies which Direct Examinations, if any, contained a Safety Related Condition (SRC) and/or an Immediate Related Condition (IRC).
- Constructability – describes the factors that influenced the project design such as geographic constraints, existing substructures, adjacent highways, railroads, waterways, etc.
- Other Identified Risks – describes other extenuating circumstances that influenced the overall project design and construction not reflected in other categories.

3. Post-Assessment

The Post Assessment step involves an engineering analysis of the assessment results for the project.

This section summarizes the completion of Direct Assessment(s), along with any additional examinations, and any preventive and mitigative measures conducted as a result of the analysis of the Direct Examinations. The *Project Summary Table* will include Direct Assessment(s) total length and completion date.

C. Construction

1. Construction Contractor Selection

This section describes SDG&E's utilization of Construction Contractor(s) that best met the criteria for the Project.

2. Construction Schedule

This section consists of the *Construction Timeline – Direct Examination* T*able* depicting the construction schedule for the Project. Images are also included to provide insight into the various field conditions of the project.

3. Commissioning and Site Restoration

This section describes site restoration activities that are typically completed after the pipeline is returned to normal operating conditions. Closeout activities are executed within the final months of the project lifecycle.

D. PROJECT COSTS

1. Cost Efficiency Actions

This section describes specific examples of notable decisions and actions by the Project Team to increase cost efficiencies and maximize project activities. Cost efficiency actions may include, but are not limited to, the bundling of projects, schedule coordination, shared land use, and enhancements to the project design.

2. Actual Costs

The Actual Direct Costs shown in the *Actual Direct Costs Table* in the TIMP project workpapers are defined as follows:

- Company Labor – Labor costs for SDG&E employees charging directly to the project, including but not limited to, project managers, engineers, land services personnel, environmental services personnel, communication and outreach managers, construction managers, and field support personnel.
- Contract Costs – External labor costs, including but not limited to, Construction Contractor, Engineering Services, Environmental Services, and Land Services.
- Material – Costs for materials purchased by SDG&E to complete the project, such as piping, valves, fittings, and other miscellaneous materials.
- Other Direct Charges – Other costs not included in Company Labor, Contract Costs, or Material (e.g. permits and government fees, other services).

Indirect Costs are listed in the *Actual Indirect Costs Table*. These costs are incremental overheads applied to TIMP projects but aren't recorded in the TIMPBA. Indirect costs are for those activities and services that are 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.

SDG&E TIMP In-Line Inspection (ILI)

Project Workpapers

Final Workpaper for Line 1600 Phase 1 [redacted] TIMP Project

I. LINE 1600 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 1600 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) assessed a [redacted] diameter transmission line that runs approximately 29.2 miles from [redacted] Station to [redacted] Station. The pipeline is routed across Class 1, 2, and 3 locations with 15.4 miles within High Consequence Areas (HCAs) and 13.8 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to four sites, of which included two Immediate Repair Conditions (IRCs). The activities were located in the unincorporated communities of [redacted] and [redacted] and in the cities San Diego and Escondido. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $4,334,874.

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Final Workpaper for Line 1600 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	1600
Segment	Phase 1 – [redacted]
Inspection Type	[redacted] Tool
Location	Escondido
Class	1, 2, 3
HCA Mileage	15.4 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values [redacted]
Construction Start	[redacted]
Construction Completion	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start	[redacted]
Construction Completion	[redacted]

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter	
MAOP	
SMYS	
Construction Start	
Construction Completion	
Direct Examination Details	
Site	3
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	No Repairs
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start	
Construction Completion	

Final Workpaper for Line 1600 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start			
Construction Completion			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,411,190	2,923,684	4,334,874

Final Workpaper for Line 1600 Phase 1 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 1600 Phase 1 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspections and Direct Examinations.

Prior to initiating execution of the assessment, San Diego Gas and Electric (SDG&E) reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 1600 Phase 1 for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] Station to a temporary receiver site within [redacted] Station.
   b. The Project required temporary associated piping at both the launcher and receiver sites.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI, Direct Examination sites were identified for validation. Four Direct Examinations are included in this report and all remaining Direct Examinations will be addressed after 2023.
   a. Direct Examination Site #1 consisted of a 12-foot replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of no repairs.
   d. Direct Examination Site #4 consisted of a 33-foot replacement.
   e. The Project Team coordinated with a separate SDG&E Project to complete Direct Examinations at Site #3 and Site #4.

f. The Project Team identified two Immediate Repair Conditions (IRCs).

3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of any future Direct Examinations will be used to determine if additional examinations are required.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and four Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
1600	29.2 mi	[redacted]	[redacted]	[redacted]	No
1600	29.2 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
1600	1	Yes	Yes	15 ft	Replacement	12 ft	Capital
1600	2	Yes	Yes	27 ft	Soft Pad	N/A	O&M
1600	3	Yes	No	25 ft	No Repairs	N/A	O&M
1600	4	No	No	39 ft	Replacement	33 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 1600 Phase 1 [redacted] TIMP Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

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Final Workpaper for Line 1600 Phase 1 [redacted] TIMP Project

1. Site Description: The Inspection ran approximately 29.2 miles from a temporary launcher site within [redacted] Station to a temporary receiver site within [redacted] Station.
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple Vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies:
   a. The Project Team completed a [redacted] run earlier in the year to verify the new pipeline alignment associated with the replacement segments of Line 1600. This information was used to calibrate the [redacted] tools prior to the Inspection.
   b. The Project utilized a [redacted], and [redacted] capabilities during the Inspection of the pipeline. A [redacted] were also utilized in preparation for the Inspection.
   c. The Project required an [redacted] tool re-run due to sensor loss.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.

[redacted]

7. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
8. Community Impacts: No identified impacts.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: No identified impacts.
11. Permit Restrictions: The Project Team obtained and Encroachment Permit from the City of Escondido.
12. Land Use: The Project Team utilized an existing SDG&E Facility as a laydown yard.
13. Traffic Control: No identified impacts.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment: There were four Direct Examination Sites selected for validation of the ILI within the Line 1600 Phase 1 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 12-foot replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of no repairs.
   d. Direct Examination Site #4 consisted of a 33-foot replacement.
2. SRC/IRC: Direct Examination Site #1 and Site #2 resulted in IRCs and required expedited project schedules.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded that an alternate source of feed was required for customers during construction.

4. Customer Impacts: The Project Team determined that customer service could be maintained through alternate sources of feed during construction at Direct Examination Sites #1 and #2.
5. Substructures: During construction activities the Project Team encountered multiple unmarked utility service lines within the excavation for Direct Examination Site #1.
6. Community Impacts: The Project Team coordinated with a residential customer to keep them informed during a water service disruption due to an unmarked utility at Direct Examination Site #1.
7. Environmental: No identified impacts.
8. Permit Restrictions: No identified impacts.
9. Land Use: No identified impacts.
10. Traffic Control: No identified impacts.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team will use the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis is still pending and will be used to determine if additional examinations are required to enhance the overall integrity and safety of the pipeline.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

Table 5: Construction Timeline – Direct Examination

Mobilization 1: Direct Examination Sites #1 and #2		
Construction Start Date	[redacted]	
Construction Completion Date		
Mobilization 2: Direct Examination Sites #3 and #4		
Construction Start Date		
Construction Completion Date		

Table 6: Construction Timeline – IRC

IRC Discovery Date – Site #1 and #2	[redacted]	
Repair Date – Site #1 and #2		

Figure 2: Site #1- IRC

Figure 3: Site #1- IRC

Figure 4: Site #2- IRC

Figure 5: Site #3 – North Tie-in

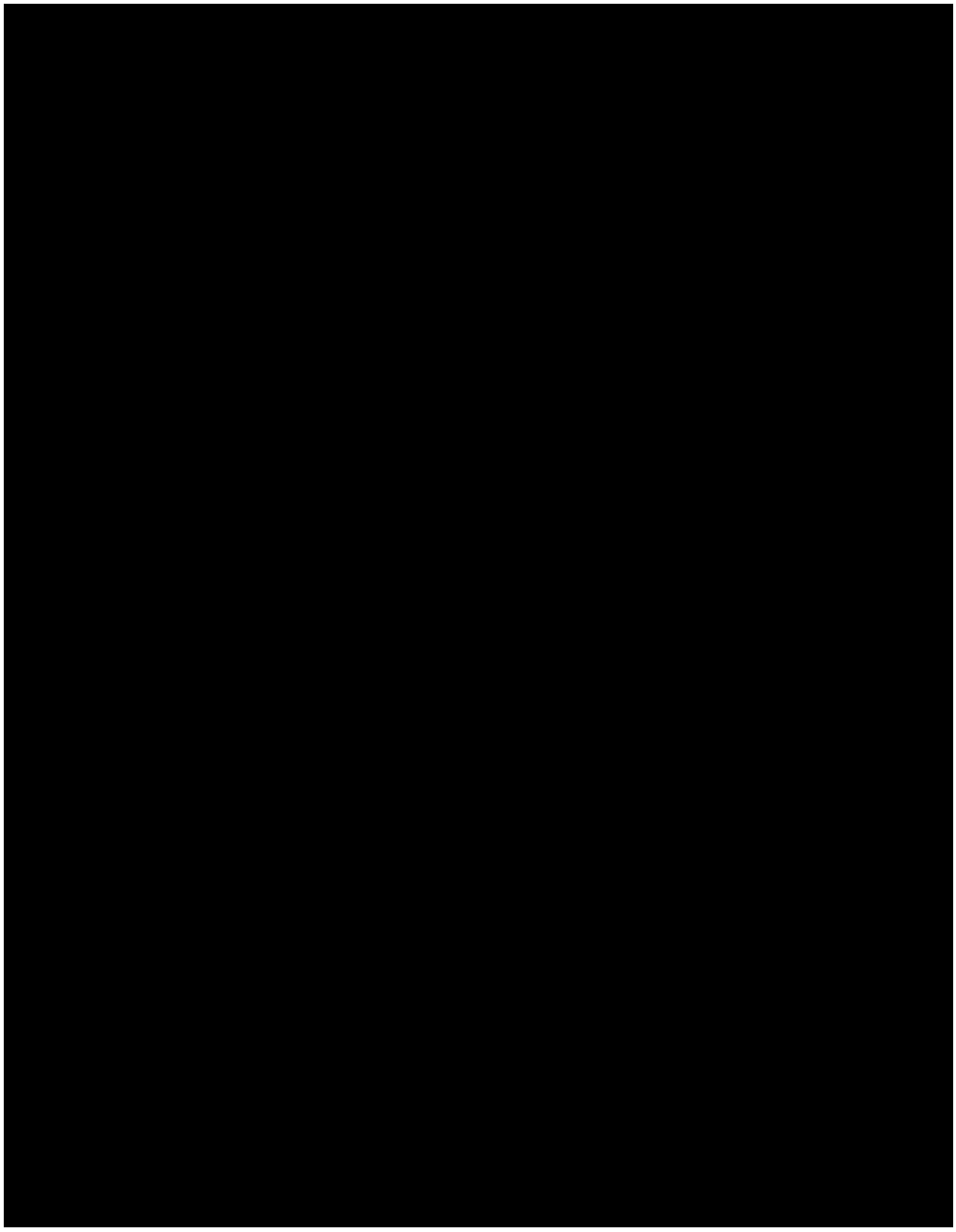


Figure 6: Direct Examination Site #4

Figure 7: Direct Examination Site #4

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the Project plan and design. Specific examples of cost efficiency actions taken on this Project were:

1. Schedule Coordination Project Execution: The Project Team coordinated with another SDG&E Project to efficiently complete Direct Examinations by utilizing their excavation locations, replacement segments, and shared construction contractors for Direct Examination Site #3 and Site #4.

B. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $4,334,874.

Table 7: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	55,079	484,073	539,152
Contract Costs	895,708	1,199,867	2,095,575
Material	83,925	42,084	126,009
Other Direct Charges	22,549	1,011,739	1,034,289
Total Direct Costs	1,057,261	2,737,764	3,795,025

Table 8: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	185,271	185,921	371,192
AFUDC	142,479	0	142,479
Property Taxes	26,179	0	26,179
Total Indirect Costs	353,929	185,921	539,849

Table 9: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,411,190	2,923,684	4,334,874

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 1600 Phase 1 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $4,334,874.

End of Line 1600 Phase 1 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 1600 Phase 2 [redacted] TIMP Project

I. LINE 1600 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 1600 Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 19.6 miles from [redacted] Station. The pipeline is routed across Class 1, 3, 4 locations with 18 miles within High Consequence Areas (HCAs) and 1.6 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI). The Project activities were located in the cities of San Diego and Poway. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $7,060,456.

Final Workpaper for Line 1600 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	1600		
Segment	Phase 2 – [redacted]		
Inspection Type	[redacted] tool		
Location	San Diego and Poway		
Class	1, 3, 4		
HCA Mileage	18 miles		
Vintage	Multiple vintages from [redacted]		
Pipe Diameter *(confidential)*	[redacted]		
MAOP *(confidential)*	[redacted]		
SMYS *(confidential)*	Multiple SMYS values from [redacted]		
Construction Start	[redacted]		
Construction Completion	[redacted]		
Final Tool Run Date	[redacted]		
Inspection Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	2,671,044	4,389,412	7,060,456

Final Workpaper for Line 1600 Phase 2 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 1600 Phase 2 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Table 2 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 1600 Phase 2 for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] Station to a permanent receiver site within [redacted] Station.
   b. The Project Team installed a temporary filter separator and associated piping at the receiver site.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI, Direct Examination sites were identified for validation and will be addressed after 2023.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of any future Direct Examinations will be used to determine if additional examinations are required.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
1600	20 mi	[redacted]	[redacted]	[redacted]	No

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 1600 Phase 2 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: ILI from a permanent launcher site within [redacted] Station to a permanent receiver site within [redacted] Station.
2. HCA Threats:

[redacted]

[redacted]

[redacted]

3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies:
   a. The Project Team completed a [redacted] run in the previous year to verify the new pipeline alignment associated with the replacement segments of Line 1600. This information was used to calibrate the [redacted] tools prior to the Inspection.
   b. The Project utilized [redacted] capabilities during the inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
   c. The Project included an unsuccessful [redacted] tool run.[6] The tool became lodged in the pipeline, making it unable to traverse and collect data. The Project Team lost communication with the [redacted] tool and had to deploy a separate rescue tool.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
7. Customer Impacts: No customer impacts.
8. Community Impacts: The Project had minimal traffic impacts, noise during the evening hours, and disruption of a public walkway.

[redacted]

9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: No identified impacts.
11. Permit Restrictions: The Project Team obtained the following permits:
    a. Excavation Moratorium Waiver from the City of San Diego.
    b. Construction Noise Permit from the City of San Diego.
    c. The Project Team submitted an emergency notice to the City of San Diego.
12. Land Use: The Project Team obtained a Right of Way (ROW) agreement from the City of Poway.
13. Traffic Control: The Project Team required a Traffic Control Plan (TCP) from the City of Poway. This included lane closures on [redacted] and [redacted]
14. Schedule Delay: During the ILI operations, the Project Team experienced a delay due to losing communication with the [redacted] tool that was lodged in the pipeline as described in 5.c. of this section.
15. Constructability: The Project Team completed extended workdays for approximately one week in order to extract the lodged [redacted] tool. This consisted of an excavation with 12 feet of pipe being replaced so that the stalled tool could be removed from the pipeline.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E will review Inspection reports, complete various site evaluations, and communicate with project stakeholders. Following the completion of the Inspections using ILI, Direct Examination sites will be identified for validation and addressed after 2023.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team will use the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis is still pending and will be used to determine if additional examinations are required to enhance the overall integrity and safety of the pipeline.

III. CONSTRUCTION

A. Construction Contractor Selection

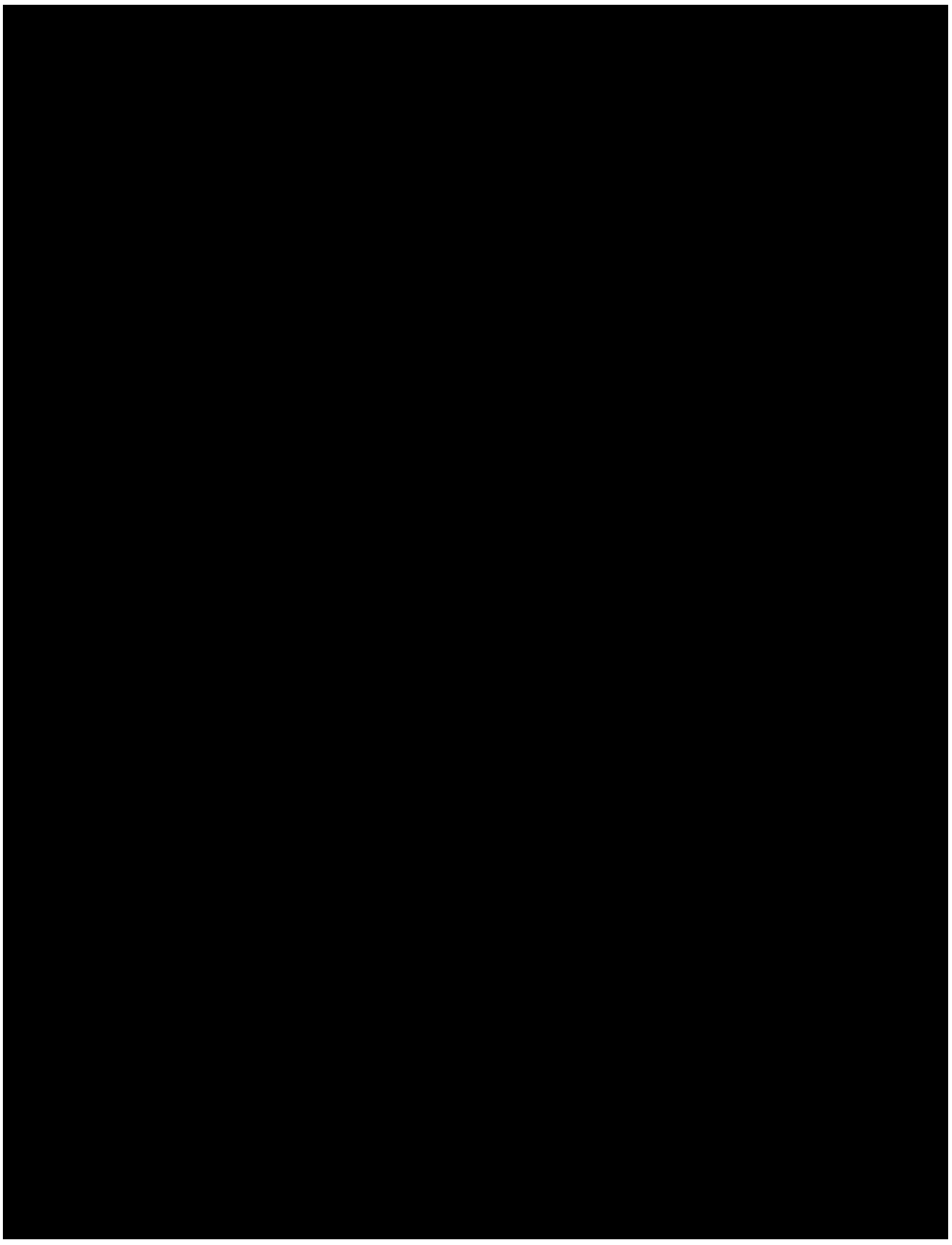
Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Inspection

Mobilization 1: [redacted]	Tool Run
Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	
Mobilization 2: [redacted]	**Tool Run**
Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	

Figure 2: Excavation for Tool Extraction



C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the Project plan and design.

B. Actual Costs[7]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $7,060,456.

Table 6: Actual Direct Costs[8]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	64,194	597,569	661,762
Contract Costs	1,997,675	2,406,778	4,404,452
Material	274,958	100,445	375,403
Other Direct Charges	101,539	955,419	1,056,957
Total Direct Costs	2,438,365	4,060,210	6,498,575

Table 7: Actual Indirect Costs[9]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	208,361	329,202	537,564
AFUDC	19,713	0	19,713
Property Taxes	4,605	0	4,605
Total Indirect Costs	232,679	329,202	561,881

Table 8: Total Costs[10]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,671,044	4,389,412	7,060,456

[7] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[8] Values may not add to total due to rounding.
[9] Ibid.
[10] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 1600 Phase 2 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $7,060,456.

End of Line 1600 Phase 2 [redacted] TIMP Project Final Workpaper

I. LINE 1601 [redacted] TIMP PROJECT

A. Background and Summary

Line 1601 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 13.4 miles from [redacted]. The pipeline is routed across a [redacted] location within a High Consequence Area (HCA). This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to four sites, of which one site contained an Immediate Repair Condition (IRC). The activities were located in the cities of Escondido, San Marcos, and Carlsbad. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $6,637,391.

SDGE

Final Workpaper for Line 1601 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	1601
Segment	[redacted]
Inspection Type	[redacted] Tool
Location	Carlsbad and Escondido
Class	[redacted]
HCA Mileage	13.4
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 1601 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	No Repair
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Direct Examination Details	
Site	3
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 1601 [redacted] TIMP Project

Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad and Band		
Within HCA	Yes		
SRC/IRC	Yes		
SRC/IRC Discovery Date	[redacted]		
Repair Date			
Pipe Diameter			
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	$947,930	$5,689,461	$6,637,391

Final Workpaper for Line 1601 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 1601 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 1601 for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] Station to a temporary receiver site on [redacted] in the City of [redacted].
   b. The Project required temporary installation of a barrel, associated piping, and filter separator at the receiver site.
   c. The Project required temporary installation of associated piping at the launcher site.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, five Direct Examination sites were identified for validation. Activities for one of the five Direct Examinations will be addressed after 2023.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs and a band repair.
   e. The Project Team identified one IRC at Direct Examination Site #4.

3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and four Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
1601	13.4 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
1601	1	Yes	No	38 ft	Soft Pad	N/A	O&M
1601	2	Yes	No	27 ft	No Repair	N/A	O&M
1601	3	Yes	No	48 ft	Soft Pad	N/A	O&M
1601	4	Yes	Yes	40 ft	Soft Pad, Band	N/A	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 1601 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

Final Workpaper for Line 1601 [redacted] TIMP Project

1. Site Description: ILI from a temporary launcher site within [redacted] Station to a temporary receiver site on [redacted] in the City of [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple Vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized a [redacted] capabilities during the Inspection of the pipeline. A [redacted] were also utilized in preparation for the Inspection.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
7. Customer Impacts: No customer impacts.
8. Community Impacts: No identified impacts.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: No identified impacts.
11. Permit Restrictions: The Project Team obtained an Encroachment permit from the City of Escondido.
12. Land Use: No identified impacts.

[redacted]

13. Traffic Control: The Project Team required a Traffic Control Plan (TCP) from the City of Escondido for both the launcher and receiver sites. The TCP consisted of lighted barricades and coordinated driveway access with a homeowner at the receiver site, and two-lane traffic control with flaggers at the launcher site.
14. Constructability: Previous ILIs were run from [redacted]. Due to a change in system availability, the ILI was run from [redacted]. This required the Project Team to remove the existing permanent receiver and install a temporary launcher to complete the ILI.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment: There were five Direct Examination Sites selected for validation of the ILI within the Line 1601 [redacted] TIMP Project. Activities for one of the five Direct Examinations will be addressed after 2023.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs and a band repair.
2. SRC/IRC: Direct Examination Site #4 resulted in an IRC and required expedited project schedules.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded that a non-core customer will require a partial curtailment during activities for Direct Examination Site #4.

5. Community Impacts: The Project Team notified nearby schools and residents on the Project schedule and activities.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained an Encroachment permit from the City of Escondido for Direct Examination Site #1 that limited work hours due to the location being near a school.
9. Land Use: The Project Team obtained a Right of Way (ROW) from the City of San Marcos for Direct Examination Site #2. In accordance with the ROW, night work was required from 9pm to 6am, Sunday night through Friday morning.
10. Traffic Control: The Project required a Traffic Control Plan (TCP) from the City of San Marcos for Direct Examination Site #2. The TCP consisted of one lane closure and the use of a flagger to direct traffic.
11. Constructability: The Project required landscape restoration of a center median at Direct Examination Site #4.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	

Table 5: Construction Timeline – Direct Examination

Mobilization 1: Direct Examination Site #1	
Construction Start Date	[redacted]
Construction Completion Date	
Mobilization 1: Direct Examination Sites #2, #3, #4	
Construction Start Date	[redacted]
Construction Completion Date	

Table 6: Construction Timeline – IRC

IRC Discovery Date – Site #4	[redacted]
Repair Date – Site #4	

Figure 2: Direct Examination Site #1

Final Workpaper for Line 1601 [redacted] TIMP Project

Figure 3: Direct Examination Site #2

Figure 4: Direct Examination Site #2

C. Commissioning and Site Restoration

Commissioning activities included restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities included development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the project plan and design. Specific examples of cost efficiency actions taken on this Project were:

1. Schedule Coordination: The Project Team coordinated with other SDG&E projects to minimize the number of system isolations and impacts to customers.

B. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $6,637,391.

Table 7: Actual Direct Costs[3,4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	43,594	412,359	455,952
Contract Costs	654,974	4,199,724	4,854,698
Material	116,494	65,490	181,985
Other Direct Charges	51,932	641,633	693,565
Total Direct Costs	866,994	5,319,206	6,186,200

Table 8: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	20,968	370,255	391,223
AFUDC	47,741	0	47,741
Property Taxes	12,227	0	12,227
Total Indirect Costs	80,936	370,255	451,191

Table 9: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	947,930	5,689,461	6,637,391

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Capital Contract Costs of $521,432 were reclassified from O&M to Capital in July 2024. This is not shown in the table due to the timing of the adjustment occurring after December 31, 2023.
[4] Values may not add to total due to rounding.
[5] Ibid.
[6] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 1601 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $6,637,391.

End of Line 1601 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 1603 [redacted] TIMP Project

I. LINE 1603 [redacted] TIMP PROJECT

A. Background and Summary

Line 1603 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 0.6 miles from [redacted] Station to just [redacted] through commercial areas and residential neighborhoods. The pipeline is routed across a [redacted] location within a High Consequence Area (HCA). This Workpaper describes the activities and costs associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) located in Spring Valley. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $1,920,394.

Final Workpaper for Line 1603 [redacted] TIMP Project

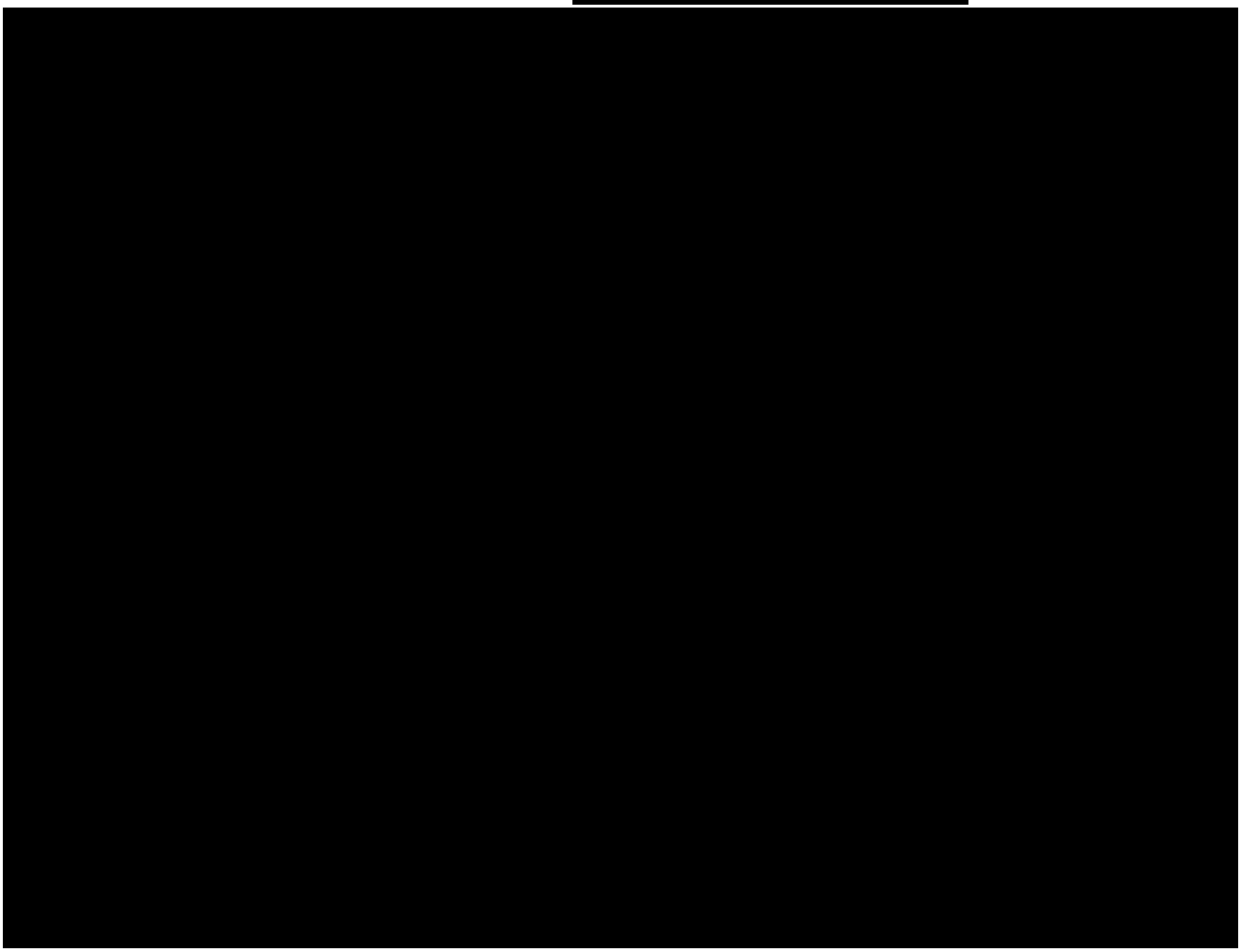
Table 1: General Project Information

Inspection Details			
Pipeline	1603		
Segment	[redacted]		
Inspection Type	[redacted] Tool		
Location	Spring Valley		
Class	[redacted]		
HCA Mileage	0.6 miles		
Vintage	[redacted]		
Pipe Diameter			
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Final Tool Run Date			
Inspection Due Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	406,296	1,514,098	1,920,394

Final Workpaper for Line 1603 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 1603 [redacted] TIMP Project



II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Table 2 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 1603 for first-time Inspection using [redacted].
   a. [redacted] from a launcher and receiver site outside of [redacted] Station.
   b. The Project Team installed a [redacted] and [redacted] to facilitate the ILI.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the [redacted], a Direct Examination was done on a validation spool piece, and it was determined that no additional Direct Examination sites were required for validation of the pipeline.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the spool piece following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
1603	0.6 mi	[redacted]	[redacted]	[redacted]	Yes

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 1603 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The [redacted] was launched and received at a site outside of [redacted] Station.
2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized a [redacted] during the Inspection of the pipeline.
6. Inspection Retrofits: The Project Team installed a [redacted] and [redacted] to facilitate the [redacted].

7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
8. Customer Impacts: No customer impacts.
9. Community Impacts: Traffic impacts and occasional noise.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: No identified impacts.
12. Permit Restrictions:
    a. San Diego County Excavation Permit
    b. San Diego County Traffic Control Permit
13. Land Use: The Project Team utilized property owned by the construction contractor in San Marcos as a laydown yard.
14. Traffic Control: The Project Team required one vehicle lane, the bike lane, and the sidewalk to be closed on [redacted] in order to complete the installation of an ILI [redacted].
15. Constructability: The Project Team obtained a waiver from the County of San Diego to excavate in a street with an existing work moratorium. A condition of the waiver from the County of San Diego required SDG&E to perform additional asphalt paving beyond the extent of the excavation.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E completed the Direct Examination for the Line 1603 [redacted] using a validation spool piece and it was determined that no additional Direct Examination Sites were required for validation.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the criteria for this Project.

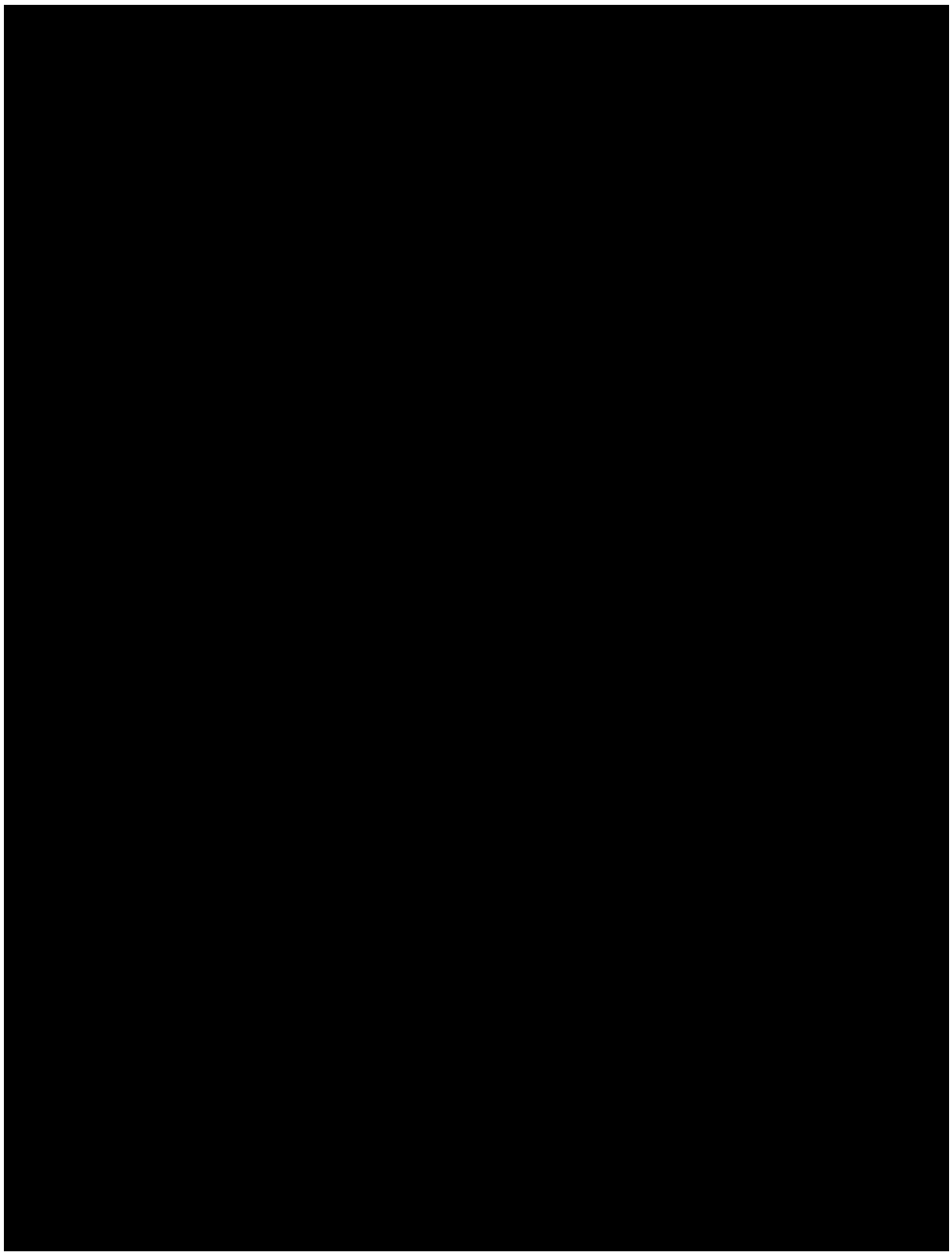
B. Construction Schedule

Table 3: Construction Timeline – Inspection

Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

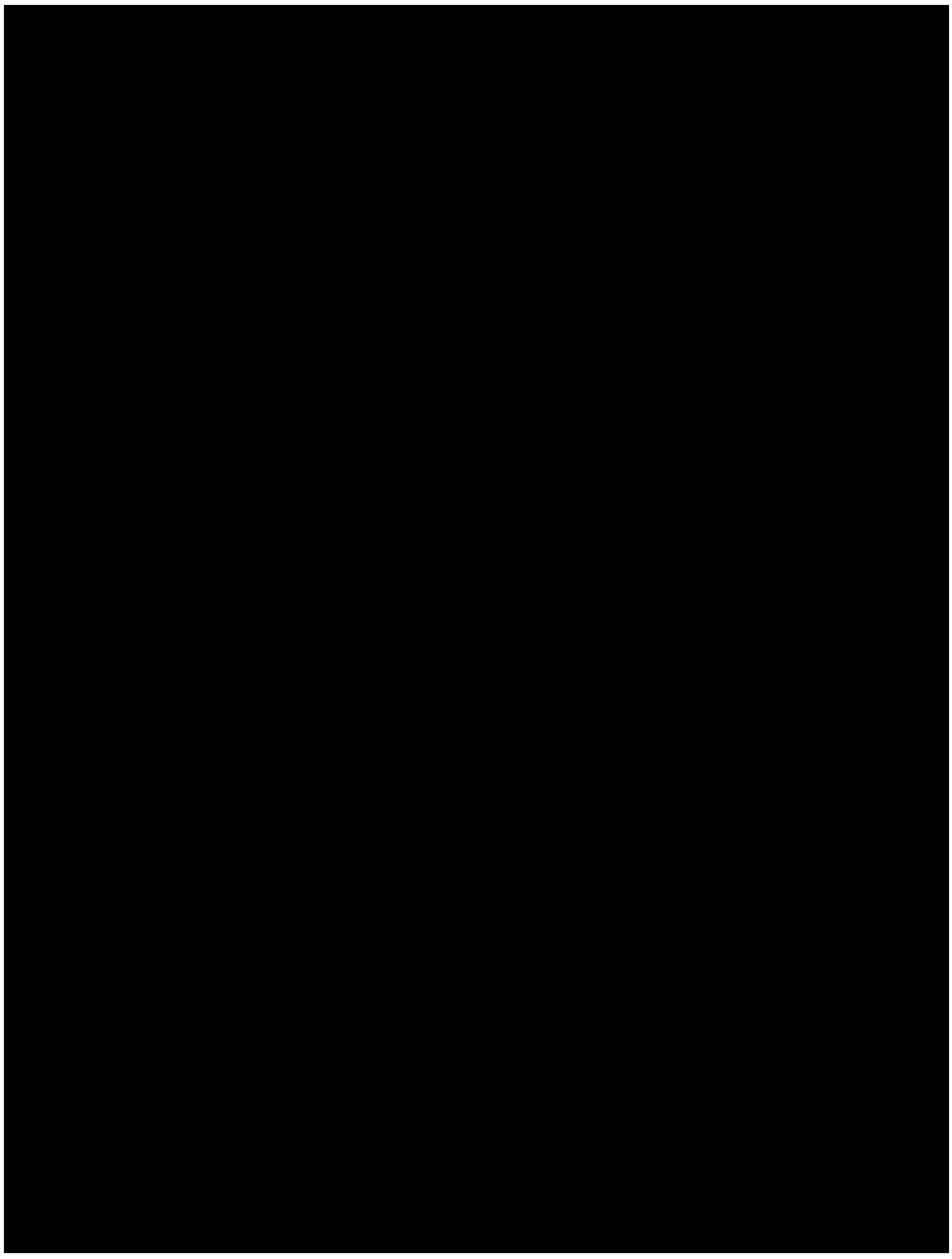
Final Workpaper for Line 1603 [redacted] TIMP Project

Figure 2: [redacted]



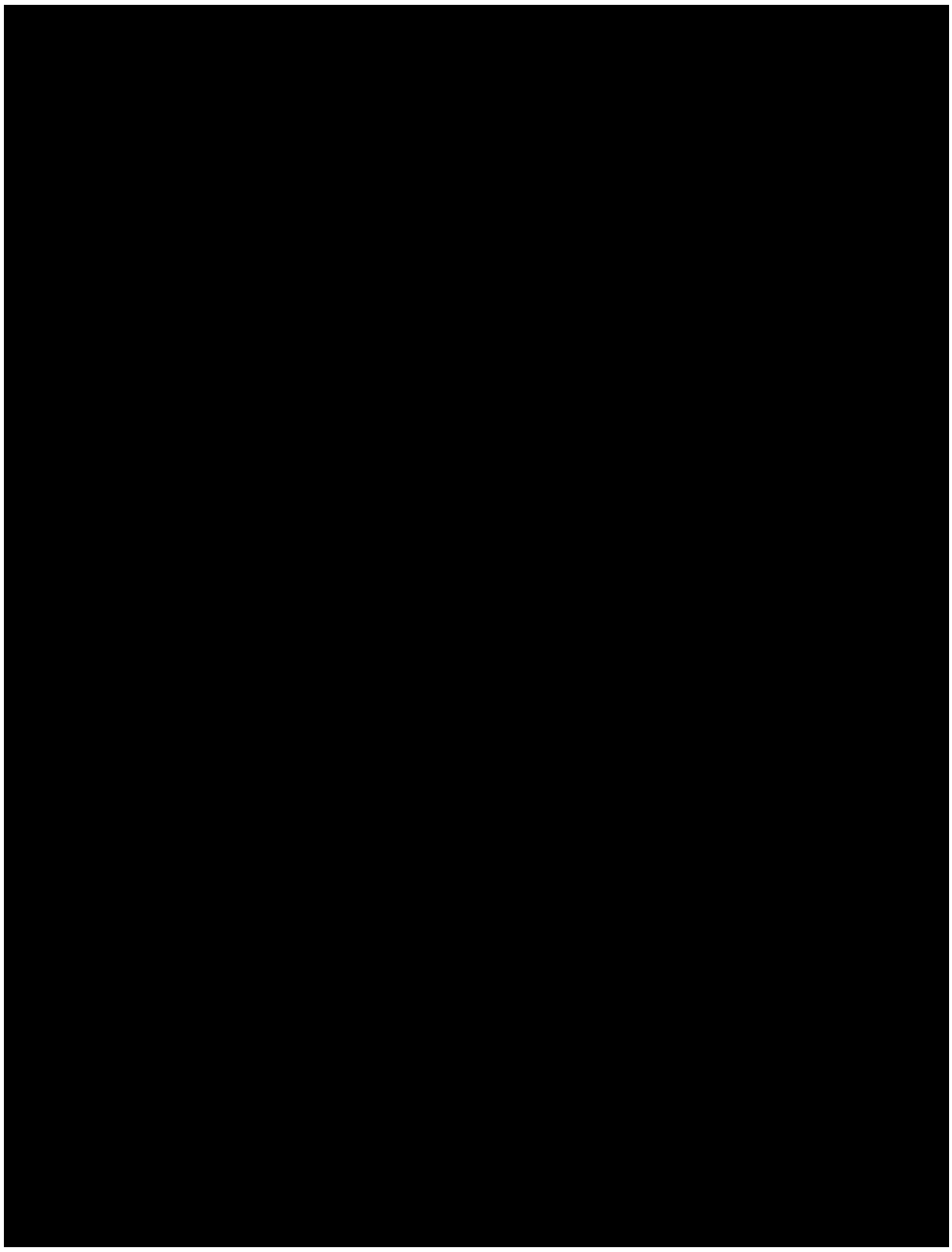
Final Workpaper for Line 1603 [redacted] TIMP Project

Figure 3: Launcher and Receiver Site



Final Workpaper for Line 1603 [redacted] TIMP Project

Figure 4: Validation Spool Piece



C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation, and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the Project plan and design.

B. Actual Costs[1]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $1,920,394.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	10,725	55,249	65,974
Contract Costs	191,210	534,146	725,357
Material	80	0	80
Other Direct Charges	17,850	295,081	312,931
Total Direct Costs	219,865	884,476	1,104,341

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	176,276	629,622	805,898
AFUDC	2,910	0	2,910
Property Taxes	7,245	0	7,245
Total Indirect Costs	186,431	629,622	816,053

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	406,296	1,514,098	1,920,394

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 1603 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $1,920,394.

End of Line 1603 [redacted] TIMP Project Final Workpaper

I. LINE 3010 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 3010 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 24.4 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 22.7 miles within High Consequence Areas (HCA) and 1.7 miles within non-HCAs. This Workpaper describes the activities associated and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to three sites. The Project activities were located in the city of Carlsbad and unincorporated communities of [redacted]. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $3,131,574.

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Final Workpaper for Line 3010 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	3010
Segment	Phase 1 – [redacted]
Inspection Type	[redacted] Tool
Location	[redacted] and Carlsbad
Class	1, 2, 3
HCA Mileage	22.7 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	Multiple MAOP values from [redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start	[redacted]
Construction Completion	
Final Tool Run Date	
Inspection Due Date	
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start	
Construction Completion	

Final Workpaper for Line 3010 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	No Repair
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start	
Construction Completion	
Direct Examination Details	
Site	3
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start	
Construction Completion	

Project Costs ($)	Capital	O&M	Total
Loaded Project Costs	453,912	2,677,662	3,131,574

Final Workpaper for Line 3010 Phase 1 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 3010 Phase 1 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 3010 Phase 1 for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] Station to a permanent receiver site in [redacted].
   b. The Project required temporary associated pipping at both the launcher and receiver sites.
   c. The Project required a temporary filter separator and a crane to place it at the receiver site.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, three Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs and a band repair.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and three Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
3010	24.4 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
3010	1	Yes	No	15 ft	Soft Pad	N/A	O&M
3010	2	Yes	No	14 ft	No Repair	N/A	O&M
3010	3	No	No	15 ft	Soft Pad, Band	N/A	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 3010 Phase 1 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The Inspection is from a temporary launcher site within [redacted] Station to a permanent receiver site in [redacted].
2. HCA Threats:

[redacted]

[redacted]

3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which required the purchase of gas to mitigate potential system impacts while the pipeline was inspected.
7. Customer Impacts: No customer impacts.
8. Community Impacts: No identified impacts.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: No identified impacts.
11. Permit Restrictions: No identified impacts.
12. Land Use: The Project Team utilized an existing company facility as a laydown yard.
13. Traffic Control: No identified impacts.

[redacted]

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment: There were three Direct Examination Sites selected for validation of the ILI within the Line 3010 Phase 1 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs and a band repair.
2. SRC/IRC: There were no SRCs or IRCs during the Direct Examinations.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: The Project Team worked closely with a private landowner at Direct Examination Site #1 to meet restoration expectations.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: No identified impacts.
8. Permit Restrictions: No identified impacts.
9. Land Use: No identified impacts.
10. Traffic Control: No identified impacts.
11. Schedule Delay: The Project Team experienced a two-week schedule delay due to system capacity constraints.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

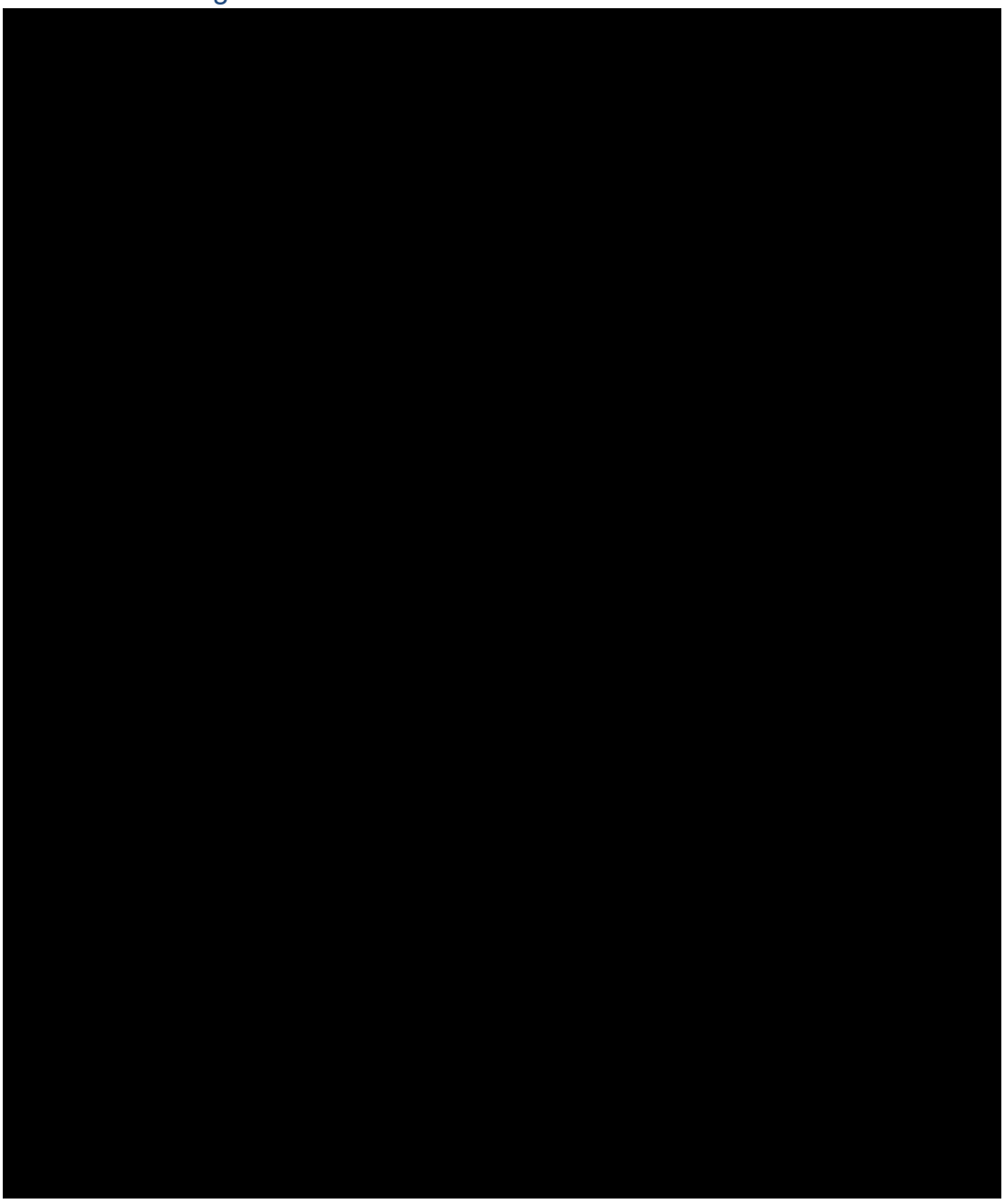
Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]
Construction Completion Date	

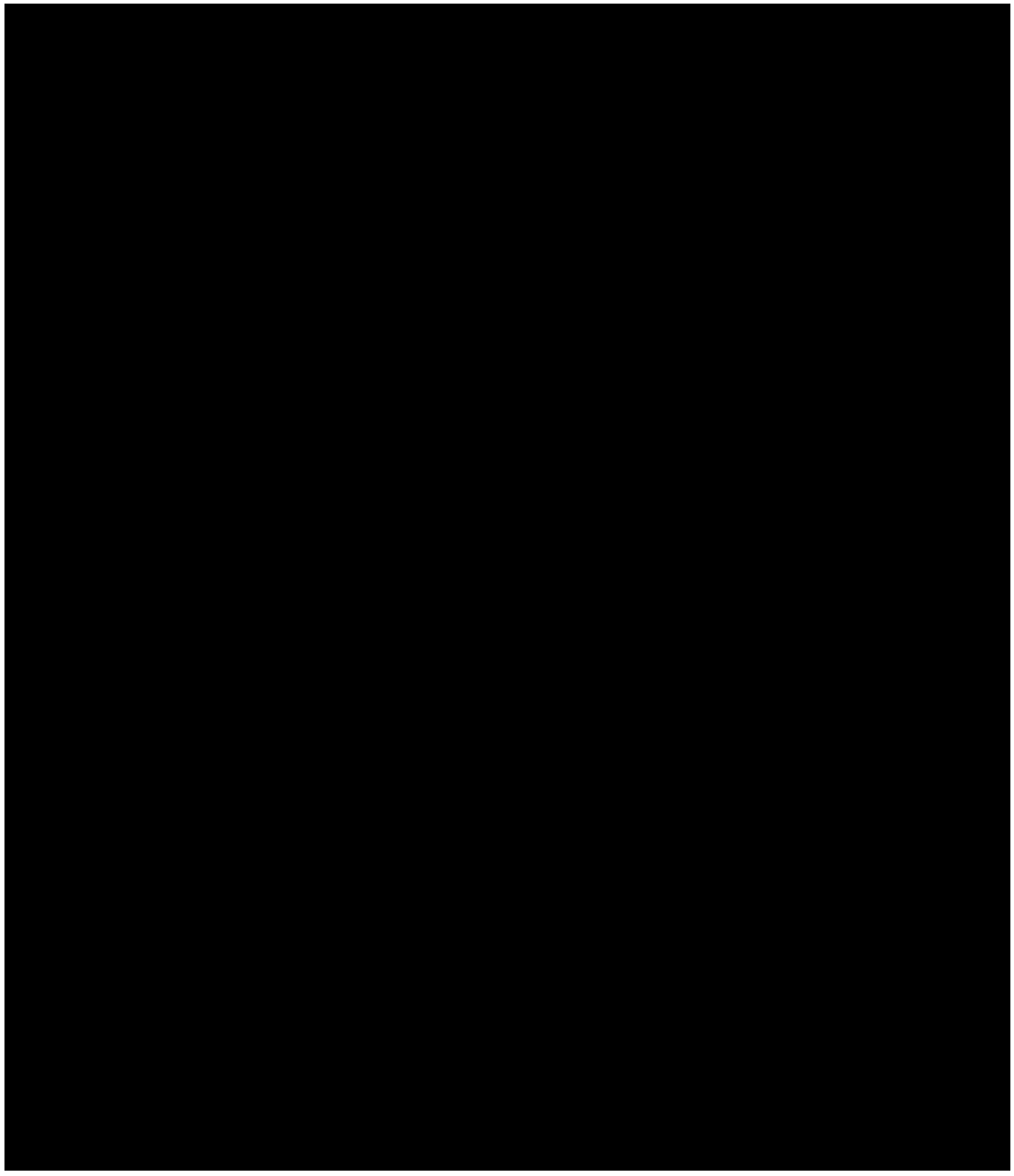
Final Workpaper for Line 3010 Phase 1 [redacted] TIMP Project

Figure 2: Direct Examination Site #2 Excavation



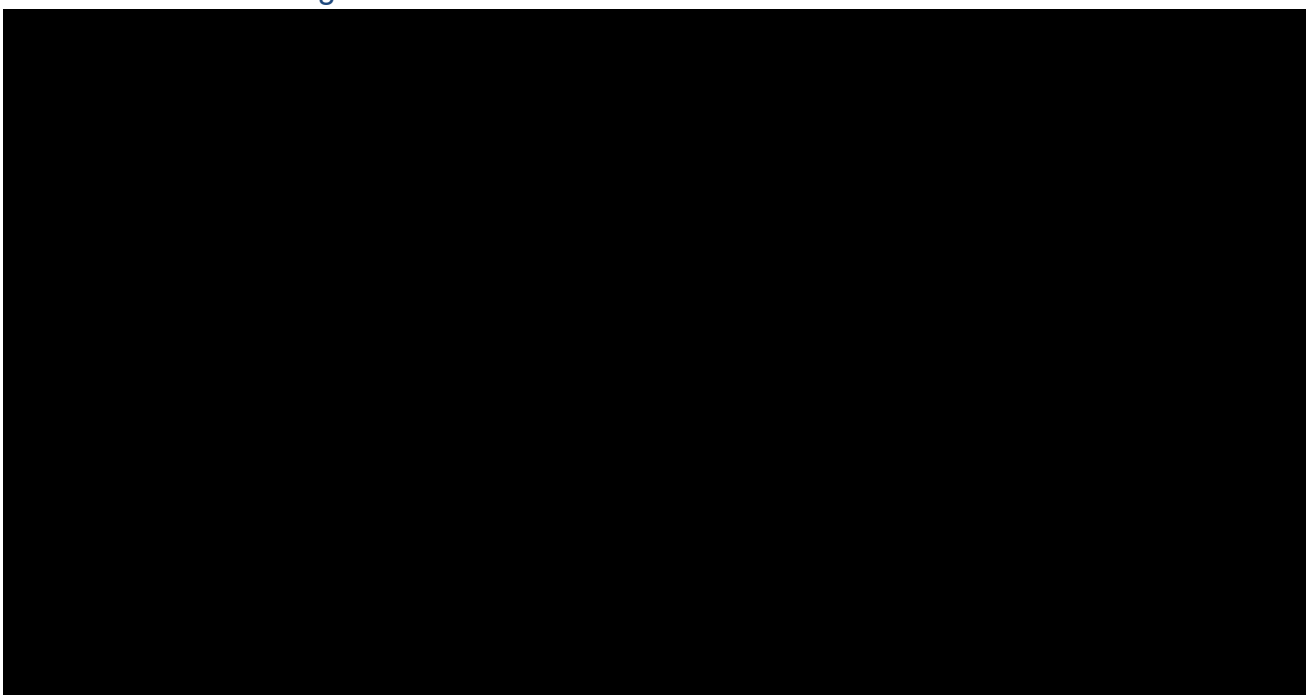
Final Workpaper for Line 3010 Phase 1 [redacted] TIMP Project

Figure 3: Direct Examination Site #3 Excavation



Final Workpaper for Line 3010 Phase 1 [redacted] TIMP Project

Figure 4: Direct Examination Site #3 Excavation



C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the Project plan and design.

B. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $3,131,574.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	75,706	205,073	280,779
Contract Costs	217,292	1,657,741	1,875,034
Material	0	221,488	221,488
Other Direct Charges	38,395	460,991	499,386
Total Direct Costs	331,393	2,545,294	2,876,687

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	97,672	132,368	230,040
AFUDC	20,985	0	20,985
Property Taxes	3,863	0	3,863
Total Indirect Costs	122,519	132,368	254,887

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	453,912	2,677,662	3,131,574

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 3010 Phase 1 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $3,131,574.

End of Line 3010 Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 3010 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 3010 Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 26.1 miles from [redacted] Station. The pipeline is routed across Class 1, 2, 3 locations with 23.7 miles within High Consequence Areas (HCAs) and 2.4 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to three sites. The Project activities were located in [redacted] and the cities of Carlsbad and San Diego. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $5,910,232.

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Final Workpaper for Line 3010 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	3010
Segment	Phase 2 – [redacted]
Inspection Type	[redacted] Tool
Location	Carlsbad and San Diego
Class	1, 2, 3
HCA Mileage	23.7 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

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Final Workpaper for Line 3010 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,700,313	4,209,919	5,910,232

Final Workpaper for Line 3010 Phase 2 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 3010 Phase 2 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 3010 Phase 2 for Inspection using ILI.
   a. ILI from a permanent launcher site located off [redacted] within the City of [redacted] to a permanent receiver site within [redacted] Station.
   b. The Project required a temporary filter separator and associated piping at the receiver site.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, three Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and three Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
3010	26.1 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
3010	1	Yes	No	19 ft	Soft Pad	N/A	O&M
3010	2	No	No	15 ft	Soft Pad	N/A	O&M
3010	3	Yes	No	15 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 3010 Phase 2 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The ILI took place from a permanent launcher site located off [redacted] within the City of [redacted] to a permanent receiver site within [redacted] Station.
2. HCA Threats:
   [redacted]

[redacted]

3. Pipe Vintage: Multiple vintages ranging from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized [redacted] capabilities during the Inspection of the pipeline. A [redacted] were also utilized in preparation for the Inspection.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which required the purchase of gas to mitigate potential system impacts while the pipeline was inspected.
7. Customer Impacts: No customer impacts.
8. Community Impacts: The Project Team utilized the [redacted] for receiver site access and worked closely with Park Rangers to minimize impacts to hikers.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental:
    a. An aquatic and biological monitor performed routine site visits during construction at the receiver site.
    b. A cultural monitor performed routine site visits during construction at the receiver site.
11. Permit Restrictions: No identified impacts.
12. Land Use: The Project Team utilized nearby company properties as laydown yards.

[redacted]

13. Traffic Control: The Project Team required traffic control support that included setting up cones and for ingress and egress of construction equipment and project personnel to the launcher site.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment: There were three Direct Examination Sites selected for validation of the ILI within the Line 3010 Phase 2 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
2. SRC/IRC: There were no Safety Related Conditions (SRCs) or Immediate Repair Conditions (IRCs) identified during the Direct Examinations.
3. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, which initially concluded the Direct Examinations could be completed.
4. Customer Impacts: No customer impacts.
5. Community Impacts: No identified impacts.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental:
   a. An aquatic and biological monitor performed routine site visits during construction for Direct Examination Site #2.
   b. A cultural monitor performed routine site visits during construction for Direct Examination Site #3.

8. Permit Restrictions: The Project Team obtained a Right of Way (ROW) from the City of Carlsbad for Direct Examination Site #1 and Direct Examination Site #3.
9. Land Use: The Project Team utilized company property as a laydown yard.
10. Traffic Control: The Project Team obtained Traffic Control Plans (TCPs) from the City of Carlsbad for Direct Examination Site #1 and Site #3. Direct Examination Site #1 required a bike lane closure and a right lane closure. Direct Examination Site #3 required the closure of a turn lane.
11. Schedule Delay: The Project experienced a five-month schedule delay due to system constraints for Direct Examination Site #1 and Site #3. Construction was halted and crews and equipment were demobilized once the Direct Examination Sites were backfilled and temporarily restored. The Project Team resumed construction in the spring the following year.
12. Constructability: The Project Team originally identified another Direct Examination site for validation, but upon excavation found the pipe to be at a significant depth. The Project Team also encountered unstable sand and significant ground water. These challenges in the excavation would have required a detailed dewatering plan to complete the Direct Examination and would have also delayed another SDG&E project in the area. The Project Team found it prudent to analyze the results of the other Direct Examinations and to determine if enough data was captured to validate the tool. After further review, it was determined that enough data was captured and therefore the Direct Examination was canceled.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	

Table 5: Construction Timeline – Direct Examination

Mobilization 1: Direct Examination Site #2	
Construction Start Date	[redacted]
Construction Completion Date	
Mobilization 2: Direct Examination Sites #1 and #3	
Construction Start Date	[redacted]
Construction Completion Date	

Figure 2: Direct Examination Site #1

Final Workpaper for Line 3010 Phase 2 [redacted] TIMP Project

Figure 3: Direct Examination Site #2

Final Workpaper for Line 3010 Phase 2 [redacted] TIMP Project

Figure 4: Direct Examination Site #3 Excavation

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the project plan and design.

B. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $5,910,232.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	53,088	326,208	379,296
Contract Costs	21,641	2,521,407	2,543,049
Material	977,730	179,476	1,157,206
Other Direct Charges	9,497	854,310	863,807
Total Direct Costs	1,061,957	3,881,401	4,943,358

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	478,275	328,517	806,792
AFUDC	106,660	0	106,660
Property Taxes	53,422	0	53,422
Total Indirect Costs	638,356	328,517	966,873

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,700,313	4,209,919	5,910,232

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 3010 Phase 2 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and report findings of the assessment. The total loaded cost of the Project is $5,910,232.

End of Line 3010 Phase 2 [redacted] TIMP Project Final Workpaper

I. LINE 3011 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 3011 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 4.1 miles from [redacted] Station to [redacted] Station, through agricultural land. The pipeline is routed across Class 1, 2, and 3 locations with 1.2 miles within High Consequence Areas (HCAs) and 2.9 miles within non-HCA. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examination made to one site located in the City of San Diego. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $1,873,859.

SDGE

Final Workpaper for Line 3011 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	3011		
Segment	Phase 1 – [redacted]		
Inspection Type	[redacted] Tool		
Location	San Diego		
Class	1, 2, 3		
HCA Mileage	1.2 miles		
Vintage	Multiple vintages from [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values from [redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Final Tool Run Date	[redacted]		
Inspection Due Date	[redacted]		
Direct Examination Details			
Site	1		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	42,276	1,831,583	1,873,859

B. Maps and Images

Figure 1: Satellite Image of Line 3011 Phase 1 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examination.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 3011 Phase 1 for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] Station to a temporary receiver site within [redacted] Station.
   b. The Project required a temporary filter separator and associated piping at the receiver site.
   c. The Project Team installed permanent [redacted] piping utilized for cross compression.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, one Direct Examination site was identified for validation.
   a. Direct Examination Site #1 consisted of soft pad repairs.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examination following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and one Direct Examination.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
3011	4.1 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
3011	1	No	No	15 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 3011 Phase 1 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The Inspection was 4.1 miles from a permanent launcher site within [redacted] Station to a temporary receiver site within [redacted] Station.
2. HCA Threats:
   [redacted]

[redacted]

3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized a [redacted] during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
7. Customer Impacts: No customer impacts.
8. Community Impacts: No identified impacts.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: The Project Team encountered vernal pools while accessing the receiver site during construction. This required the Project Team to utilize traffic plates for ingress and egress of construction equipment to limit impacts on the vernal pools.
11. Permit Restrictions: No identified impacts.
12. Land Use: The Project Team utilized SDG&E owned property as a laydown yard.
13. Traffic Control: No identified impacts.
14. Schedule Delay:
    a. Unplanned system capacity constraints required the Project Team to postpone the scheduled pigging operations. This resulted in a six-week delay, demobilization, and rescheduling of the ILI.
    b. Environmental constraints delayed demobilization after Inspection.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment: There was one Direct Examination Site selected for validation of the ILI within the Line 3011 Phase 1 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad repairs.
2. SRC/IRC: There were no SRCs or IRCs during the Direct Examinations.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: No identified impacts.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: The Project Team encountered vernal pools while accessing the Direct Examination Site during construction. This required the Project Team to utilize traffic plates for ingress and egress of construction equipment to limit the impact on the vernal pools.
8. Permit Restrictions: No identified impacts.
9. Land Use: No identified impacts.
10. Traffic Control: No identified impacts.
11. Constructability: The Project Team coordinated with a [redacted] to access Direct Examination Site #1.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

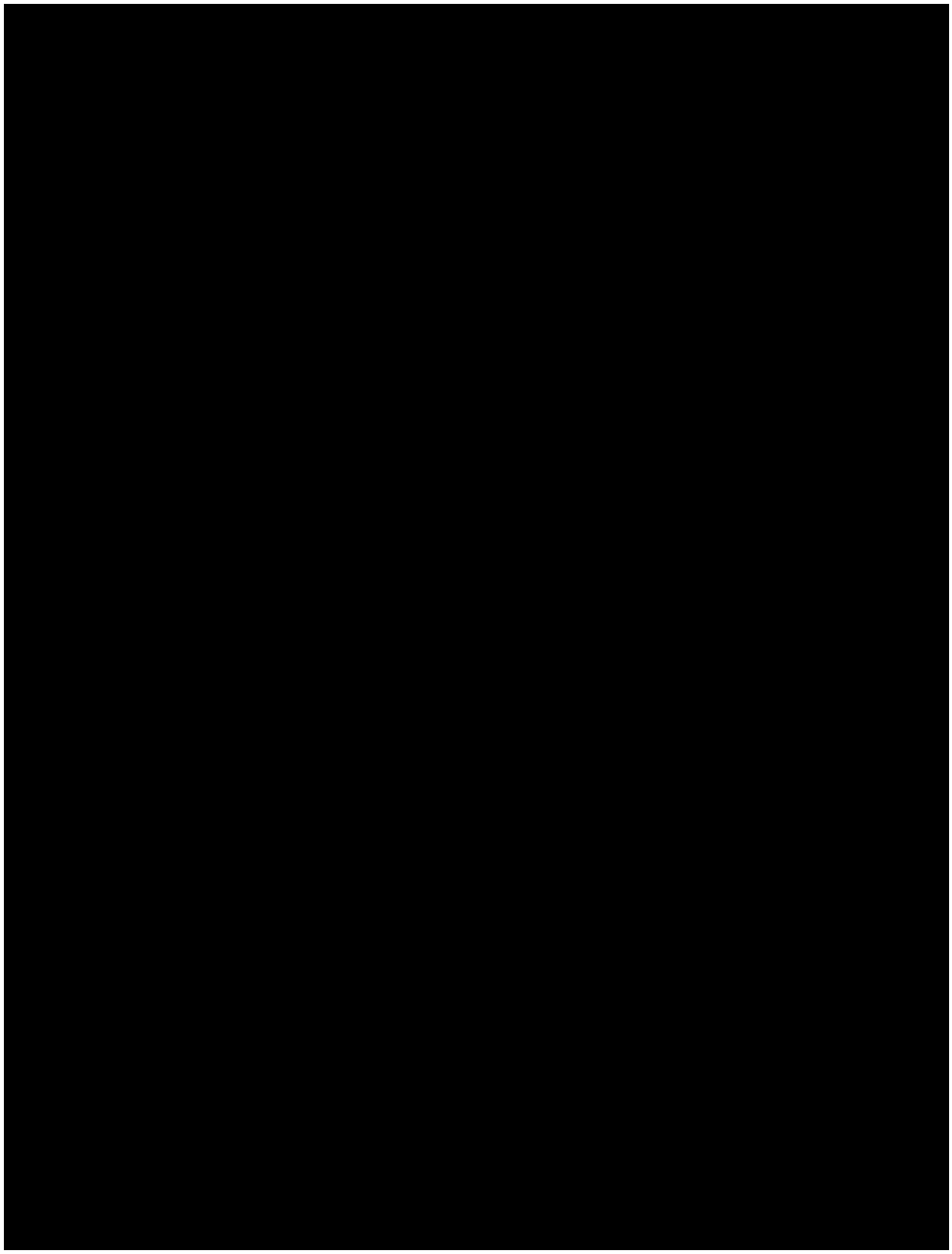
Final Workpaper for Line 3011 Phase 1 [redacted] TIMP Project

Figure 2: Direct Examination Site #1

Figure 3: Plates Covering Vernal Pools

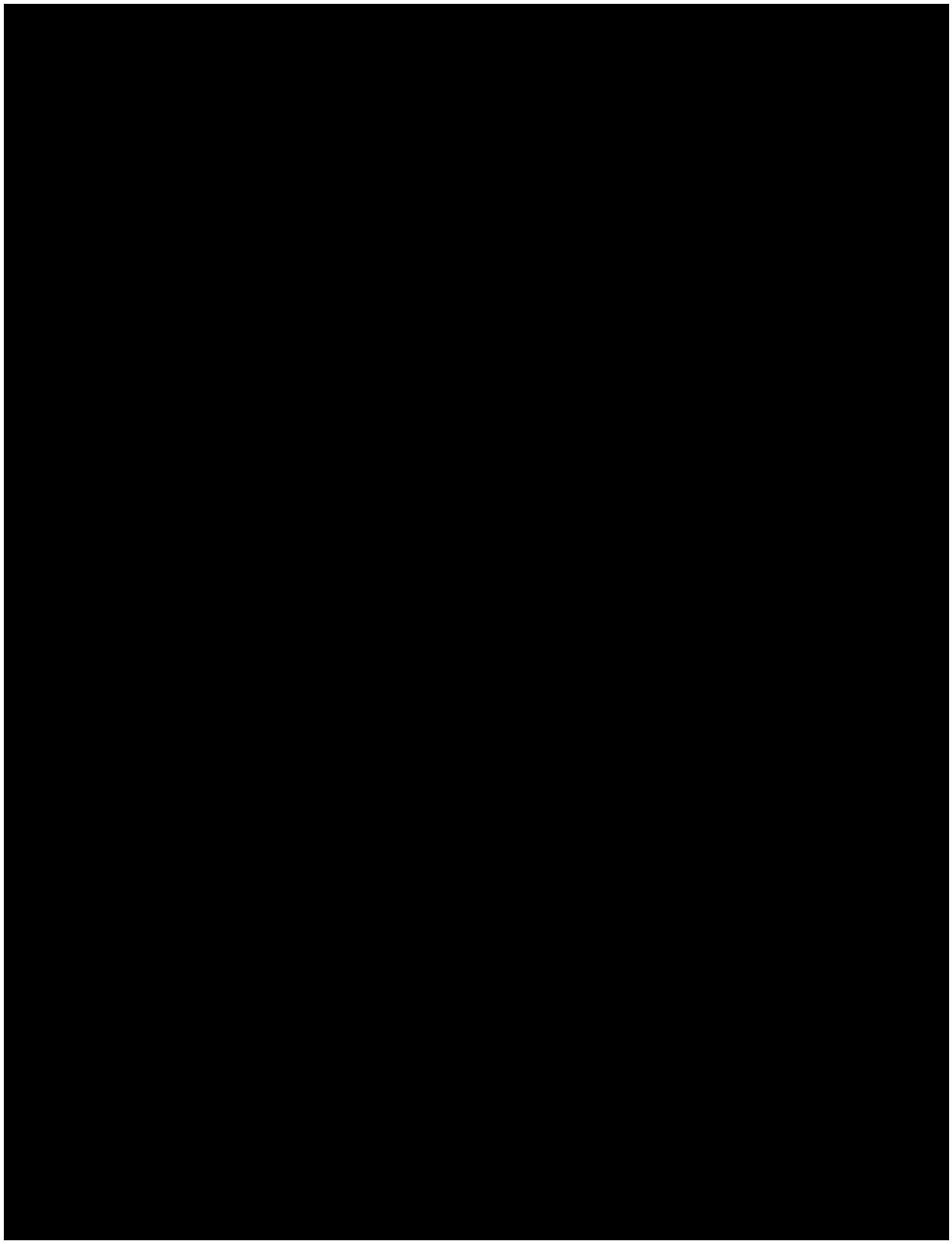
Final Workpaper for Line 3011 Phase 1 [redacted] TIMP Project

Figure 4: Launcher Site



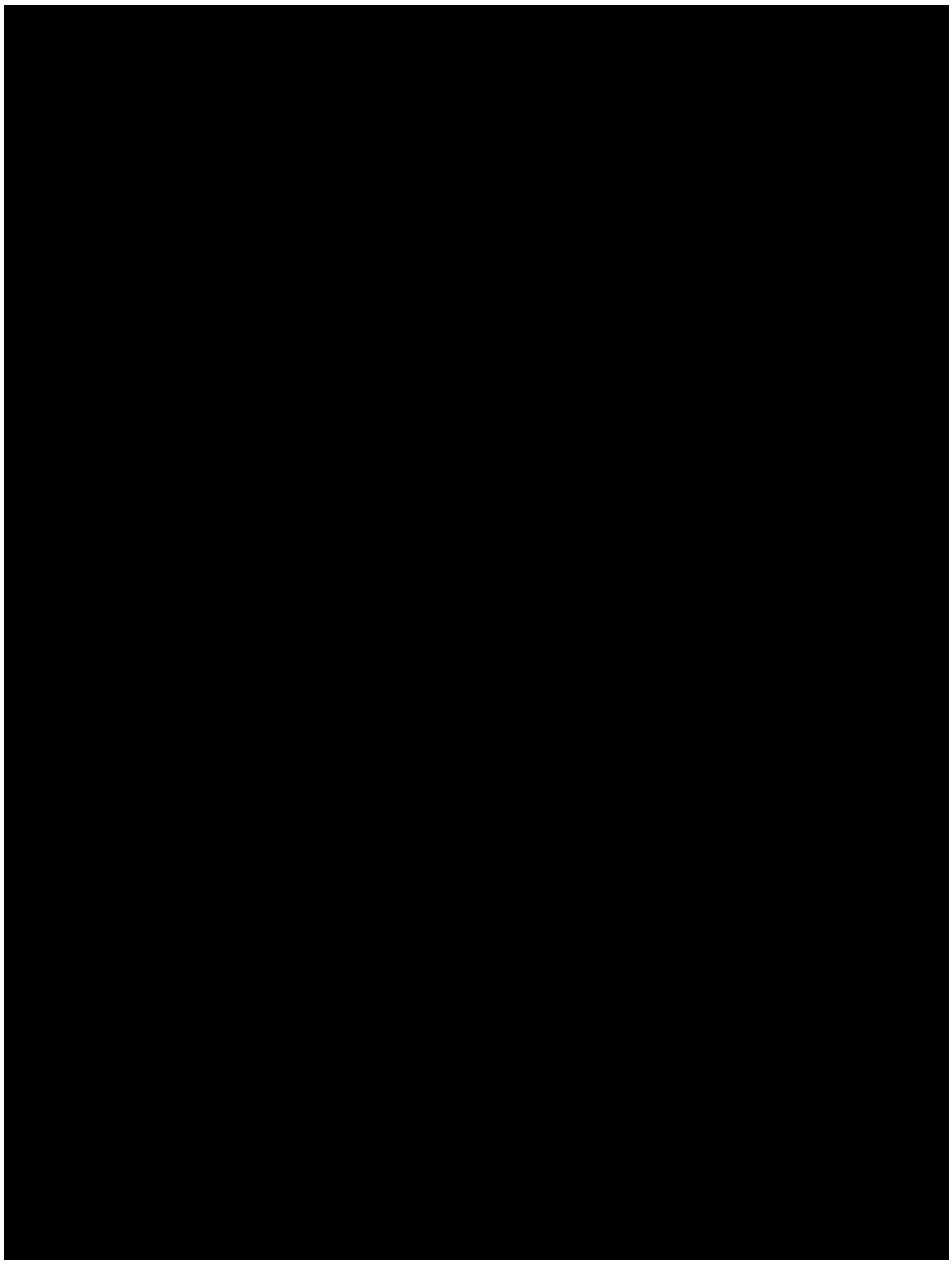
Final Workpaper for Line 3011 Phase 1 [redacted] TIMP Project

Figure 5: Launcher Site



Final Workpaper for Line 3011 Phase 1 [redacted] TIMP Project

Figure 6: Receiver Site



Final Workpaper for Line 3011 Phase 1 [redacted] TIMP Project

Figure 7: Vernal Pool

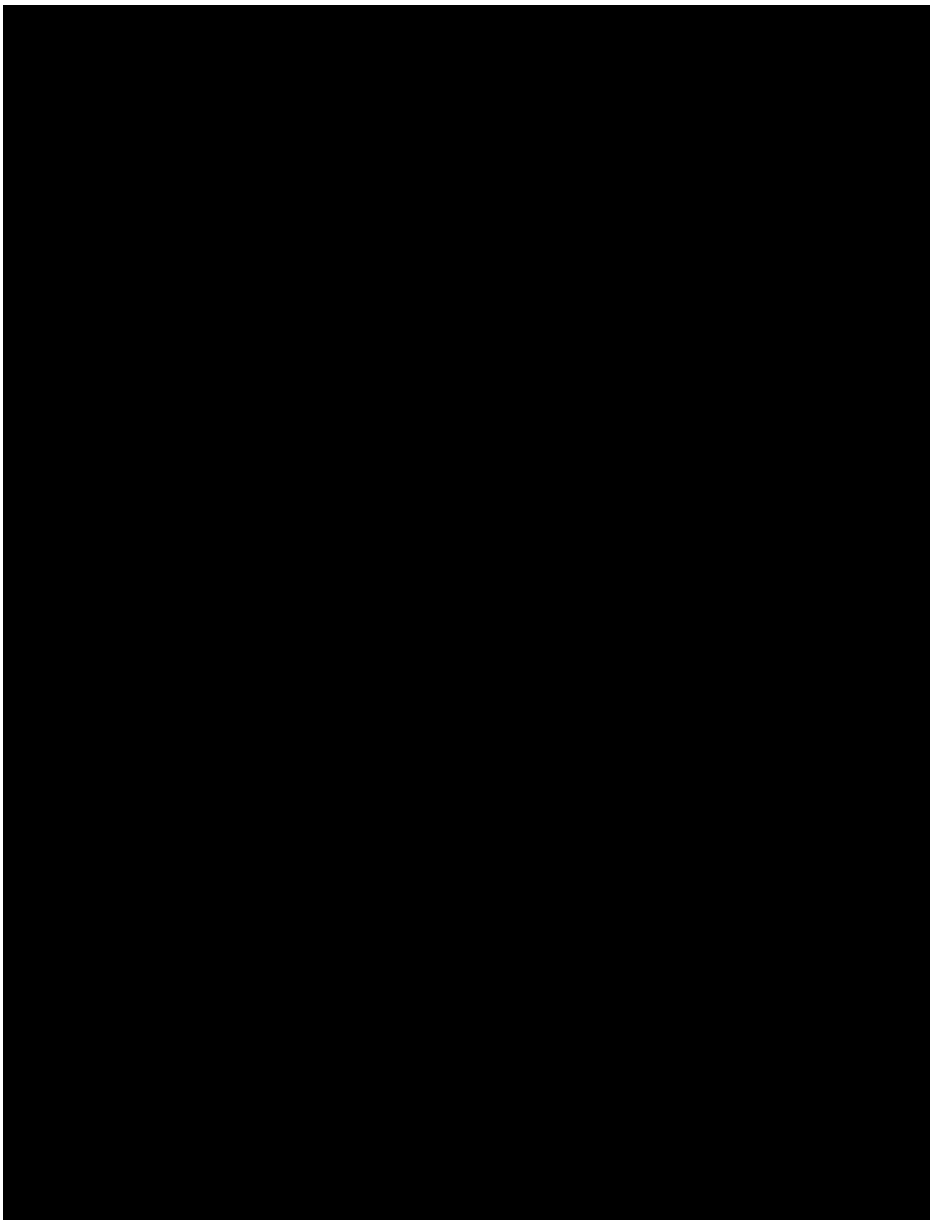
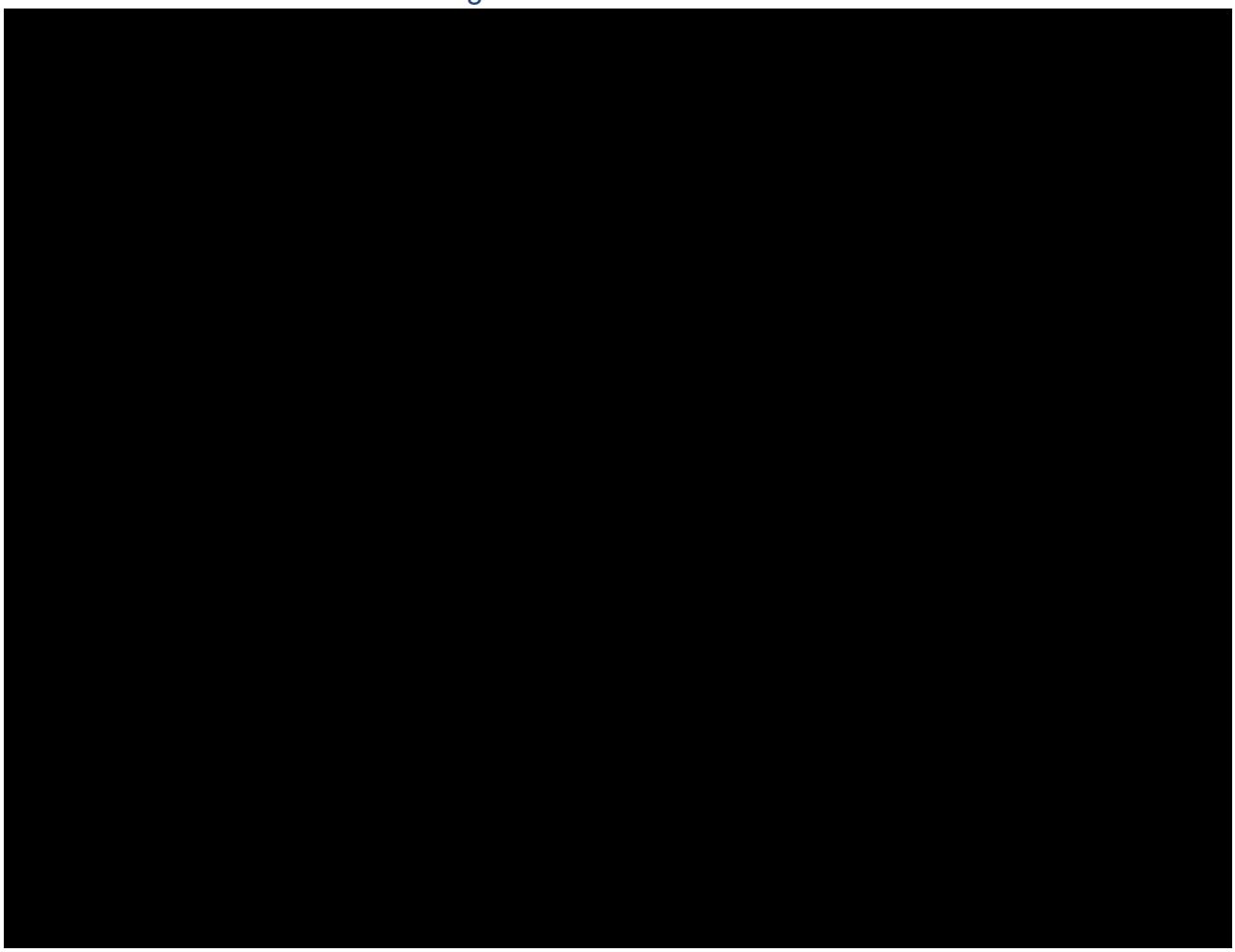


Figure 8: Receiver Site



C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the project plan and design.

B. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $1,873,859.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	8,196	142,493	150,689
Contract Costs	9,042	1,116,107	1,125,149
Material	6,986	67,122	74,109
Other Direct Charges	35	365,082	365,117
Total Direct Costs	24,259	1,690,805	1,715,064

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	16,155	140,778	156,934
AFUDC	1,444	0	1,444
Property Taxes	417	0	417
Total Indirect Costs	18,017	140,778	158,795

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	42,276	1,831,583	1,873,859

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 3011 Phase 1 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $1,873,859.

End of Line 3011 Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 3011 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 3011 Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 174 feet near [redacted]. The pipeline is routed across a [redacted] location within a High Consequence Area (HCA). This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) located in the neighborhood of [redacted] in the city of San Diego. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $1,377,894.

Final Workpaper for Line 3011 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	3011		
Segment	Phase 2 – [redacted]		
Inspection Type	[redacted] Tool		
Location	[redacted]		
Class	[redacted]		
HCA Mileage	174 feet		
Vintage	Multiple vintages from [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values from [redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Final Tool Run Date	[redacted]		
Inspection Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	811,182	566,712	1,377,894

Final Workpaper for Line 3011 Phase 2 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 3011 Phase 2 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Table 2 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Line 3011 Phase 2 for first-time Inspection using [redacted] ILI.
   a. [redacted] from a launcher and receiver site near [redacted] and [redacted]
   b. The Project Team installed a [redacted] to facilitate the ILI.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the [redacted], a Direct Examination was done on a validation spool piece, and it was determined that no additional Direct Examination sites were required for validation of the pipeline.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the spool piece following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
3011	174 ft	[redacted]	[redacted]	[redacted]	Yes

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Line 3011 Phase 2 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this project are as follows:

1. Site Description: The [redacted] was launched and received at the same site near [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages ranging from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized a [redacted] during the Inspection of the pipeline.
6. Inspection Retrofits: The Project Team installed a [redacted] to facilitate the ILI.

7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
8. Customer Impacts: No customer impacts.
9. Community Impacts: No identified impacts.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: The Inspection site is located above a canyon with a drainage that is jurisdictional to the Army Corps of Engineers, Regional Water Quality Control Board, and the California Department of Fish and Wildlife. This required an aquatic monitor to support the avoidance of indirect impacts to aquatic resources located down slope of the Inspection site.
12. Permit Restrictions: No identified impacts.
13. Land Use: The Project Team utilized property owned by the construction contractor in San Marcos as a laydown yard.
14. Traffic Control: No identified impacts.
15. Schedule Delay: The Project experienced a minor delay due the planning of an overhead power line outage.
16. Constructability: The Project Team coordinated a temporary electrical outage of high voltage overhead power lines near the launcher and receiver location to safely operate a crane that was needed to move materials onsite for construction.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E completed the Direct Examination for the Line 3011 Phase 2 [redacted] using a validation spool piece and it was determined that no additional Direct Examination Sites were required for validation.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 3: Construction Timeline – Inspection

Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

Final Workpaper for Line 3011 Phase 2 [redacted] TIMP Project

Figure 2: Launcher and Receiver Site

Figure 3: [redacted] Tool

Final Workpaper for Line 3011 Phase 2 [redacted] TIMP Project

Figure 4: Construction Crane Moving Materials Onsite

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation, and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the project plan and design.

B. Actual Costs[1]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $1,377,894.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	69,488	59,345	128,833
Contract Costs	417,561	253,551	671,113
Material	167,898	9,515	177,413
Other Direct Charges	17,779	209,246	227,025
Total Direct Costs	672,726	531,658	1,204,384

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	128,737	35,054	163,791
AFUDC	3,285	0	3,285
Property Taxes	6,434	$0	6,434
Total Indirect Costs	138,456	35,054	173,510

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	811,182	566,712	1,377,894

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 3011 Phase 2 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $1,377,894.

End of Line 3011 Phase 2 [redacted] TIMP Project Final Workpaper

I. SUPPLY LINE 49-14 [redacted] TIMP PROJECT

A. Background and Summary

Supply Line 49-14 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter line that runs approximately 477 feet along [redacted] through residential neighborhoods. The assessed pipeline is routed across a [redacted] location within a High Consequence Area (HCA). This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examination made to one site in the City of San Diego. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $2,101,550.

SDGE

Final Workpaper for Supply Line 49-14 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	49-14		
Segment	[redacted]		
Inspection Type	[redacted] Tool		
Location	City of San Diego		
Class	[redacted]		
HCA Mileage	477 feet		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values from [redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Final Tool Run Date	[redacted]		
Inspection Due Date	[redacted]		
Direct Examination Details			
Site	1		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,546,583	554,968	2,101,550

Final Workpaper for Supply Line 49-14 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Supply Line 49-14 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Supply Line 49-14 for first-time Inspection using [redacted], activities related to planning and initial execution were completed before the TY 2019 General Rate Case (GRC) cycle.
   a. [redacted] from a launcher and receiver site on [redacted].
   b. The Project Team installed a [redacted] before the TY 2019 GRC cycle to facilitate the ILI.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using [redacted], one Direct Examination site was identified for validation.
   a. Direct Examination Site #1 consisted of a 27-foot replacement.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examination following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using [redacted] and one Direct Examination.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
49-14	477 ft	[redacted]	[redacted]	[redacted]	Yes

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
49-14	1	Yes	No	29 ft	Replacement	27 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Supply Line 49-14 [redacted] TIMP Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The [redacted] was launched and received at the same site on [redacted].
2. HCA Threats:
   [redacted]

[redacted]

2 Ibid

[redacted]

3. Pipe Vintage: [redacted]
4. Long Seam Type:

   [redacted]
5. Inspection Tools and Technologies: The Project utilized a [redacted] during the Inspection of the pipeline.
6. Inspection Retrofits: The Project Team completed a [redacted] installation to be utilized as the entry and exit location for the ILI tool before the TY 2019 GRC cycle.
7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
8. Customer Impacts: The Project Team coordinated closely with a non-core customer during ILI operations.
9. Community Impacts: Traffic impacts and occasional noise.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: No identified impacts.
12. Permit Restrictions:
    a. City of San Diego Excavation Permit
    b. Street and Sidewalk Blockage approval from the City of San Diego.
13. Land Use: The Project Team utilized company property in Rainbow as a laydown yard.
14. Traffic Control: The Project Team obtained an approved Traffic Control Plan (TCP) from the City of San Diego. The TCP included multiple flaggers to direct traffic, barricades, cones, and signage.

[redacted]

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment: There was one Direct Examination Site selected for validation of the ILI within the Supply Line 49-14 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 27-foot replacement.
2. SRC/IRC: There were no Safety Related Conditions (SRCs) or Immediate Repair Conditions (IRCs) during the Direct Examination.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examination could be completed without system impacts.
4. Customer Impacts: The Project Team planned construction during a non-core customer maintenance outage in order to minimize impacts.
5. Community Impacts: Traffic impacts and occasional noise.
6. Substructures: The Project Team identified multiple utilities prior to construction and included them in the Project design.
7. Environmental: No identified impacts.
8. Permit Restrictions:
   a. City of San Diego Excavation Permit
   b. Street and Sidewalk Blockage approval from the City of San Diego.
15. Land Use: The Project Team utilized company property in Rainbow as a laydown yard.
9. Traffic Control: The Project Team obtained an approved TCP from the City of San Diego. The TCP included multiple flaggers to direct traffic, barricades, cones, and signage.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examination to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Final Workpaper for Supply Line 49-14 [redacted] TIMP Project

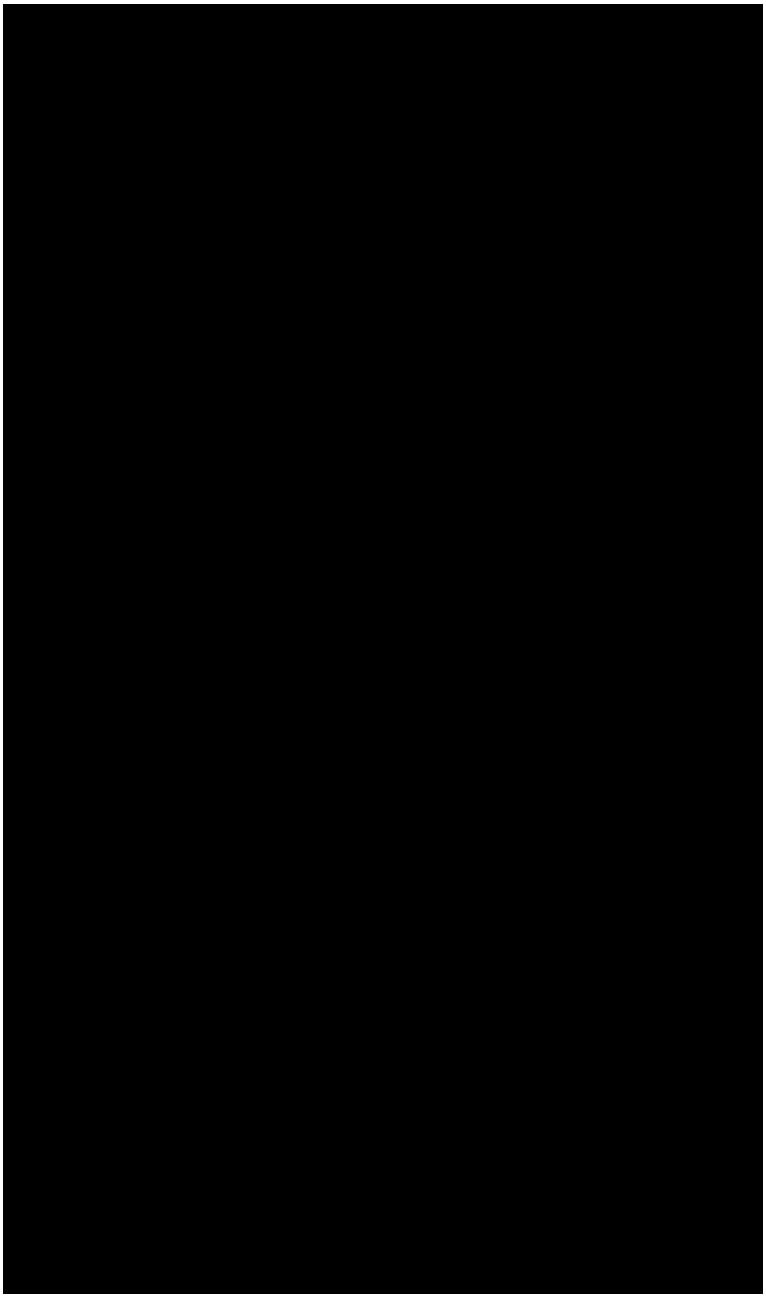
Figure 2: Direct Examination Site Excavation

Final Workpaper for Supply Line 49-14 [redacted] TIMP Project

Figure 3: Direct Examination Site Excavation

Final Workpaper for Supply Line 49-14 [redacted] TIMP Project

Figure 4: Direct Examination Site Excavation



C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation, and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the project plan and design.

B. Actual Costs[4]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $2,101,550.

Table 6: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	33,665	28,137	61,802
Contract Costs	797,498	400,934	1,198,433
Material	440	90	529
Other Direct Charges	97,689	96,724	194,414
Total Direct Costs	929,292	525,885	1,455,177

Table 7: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	606,204	29,082	635,287
AFUDC	9,443	0	9,443
Property Taxes	1,643	0	1,643
Total Indirect Costs	617,290	29,082	646,373

Table 8: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,546,583	554,968	2,101,550

[4] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[5] Values may not add to total due to rounding.
[6] Ibid.
[7] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-14 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $2,101,550.

End of Supply Line 49-14 [redacted] TIMP Project Final Workpaper

I. SUPPLY LINE 49-16 [redacted] TIMP PROJECT

A. Background and Summary

Supply Line 49-16 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter line that runs approximately 0.4 miles along [redacted], through residential neighborhoods. The pipeline is routed across a [redacted] location within a High Consequence Area (HCA). This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to six sites, of which three sites contained Immediate Repair Condition (IRCs). The activities were located in the City of Lemon Grove. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $6,977,580.

SDGE

Final Workpaper for Supply Line 49-16 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	49-16
Segment	[redacted]
Inspection Type	[redacted] Tool
Location	Lemon Grove
Class	[redacted]
HCA Mileage	0.4 miles
Vintage	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

SDGE

Final Workpaper for Supply Line 49-16 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	3
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter	
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

SDGE

Final Workpaper for Supply Line 49-16 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	4
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter	
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	5
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

SDGE

Final Workpaper for Supply Line 49-16 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	6		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	6,502,193	475,388	6,977,580

Final Workpaper for Supply Line 49-16 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Supply Line 49-16 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to executing the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Supply Line 49-16 for first-time Inspection using [redacted]. Activities related to planning and initial execution were completed before the TY 2019 General Rate Case (GRC) cycle.
   a. [redacted] of 0.4 miles of pipeline along [redacted]
   b. The Project Team installed a [redacted] before the TY 2019 GRC cycle to facilitate the ILI.
   c. The Project required installation of a temporary launcher and receiver assembly.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using [redacted], six Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of a 10-foot replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of a 35-foot replacement.
   d. Direct Examination Site #4 consisted of a 51-foot replacement.
   e. Direct Examination Site #5 consisted of a 41-foot replacement.

f. Direct Examination Site #6 consisted of an 8-foot replacement.

g. The Project identified three Direct Examination Sites containing Immediate Repair Conditions (IRCs).

3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

4. Final Project Scope: The final project scope of this Workpaper includes Inspection using [redacted] and six Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
49-16	0.4 mi	[redacted]	[redacted]	[redacted]	Yes

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
49-16	1	Yes	Yes	15 ft	Replacement	10 ft	Capital
49-16	2	Yes	No	38 ft	Soft Pad	N/A	O&M
49-16	3	Yes	Yes	38 ft	Replacement	35 ft	Capital
49-16	4	Yes	Yes	53 ft	Replacement	51 ft	Capital
49-16	5	Yes	No	43 ft	Replacement	41 ft	Capital
49-16	6	Yes	No	8 ft	Replacement	8 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Supply Line 49-16 [redacted] TIMP Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The [redacted] was launched and received at the same site on [redacted] and inspected the pipeline from [redacted]
2. HCA Threats: [redacted]
3. Pipe Vintage: [redacted]
4. Long Seam Type: [redacted]
5. Inspection Tools and Technologies: The Project utilized a [redacted] during the Inspection of the pipeline.
6. Inspection Retrofits: The Project Team installed a permanent [redacted] before the TY 2019 GRC cycle to facilitate the [redacted].
7. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
8. Customer Impacts: No customer impacts.

[redacted]

9. Community Impacts: No identified impacts.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: No identified impacts.
12. Permit Restrictions: The Project Team obtained an Encroachment Permit from the City of Lemon Grove.
13. Land Use: No identified impacts.
14. Traffic Control: The Project Team obtained an approved Traffic Control Plan (TCP) from the City of Lemon Grove.
15. Constructability: The Project required two 24-hour workdays during the [redacted].

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment: There were six Direct Examination Sites selected for validation of the ILI within the Supply Line 49-16 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 10-foot replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of a 35-foot replacement.
   d. Direct Examination Site #4 consisted of a 51-foot replacement.
   e. Direct Examination Site #5 consisted of a 41-foot replacement.
   f. Direct Examination Site #6 consisted of an 8-foot replacement.
2. SRC/IRC: Direct Examination Site #1, Site #3, and Site #4 contained IRCs and required expedited project schedules.
3. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be executed by isolating the pipeline with no system impacts.

4. Customer Impacts: No customer impacts.
5. Community Impacts: No identified impacts.
6. Substructures: The Project Team encountered an unmarked concrete storm drain. This required additional work to remove and cap the storm drain during Direct Examination Site #2 and then restoring it after repairs were completed.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained the following permits:
   a. Encroachment Permit from the City of Lemon Grove.
   b. Caltrans Encroachment Permit for Direct Examination Site #2 that granted extended work hours.
9. Land Use: No identified impacts.
10. Traffic Control: The Project required a TCP from the City of Lemon Grove and from Caltrans. The City of Lemon Grove TCP consisted of a standard lane closure and flaggers on [redacted]. The Caltrans TCP required a significant amount of k-rail and offramp closure for Direct Examination Site #2.
11. Constructability: Due to heavy rain, the Project Team required a hydro vacuum truck at each Direct Examination site to continuously remove water from the excavations during construction activities.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

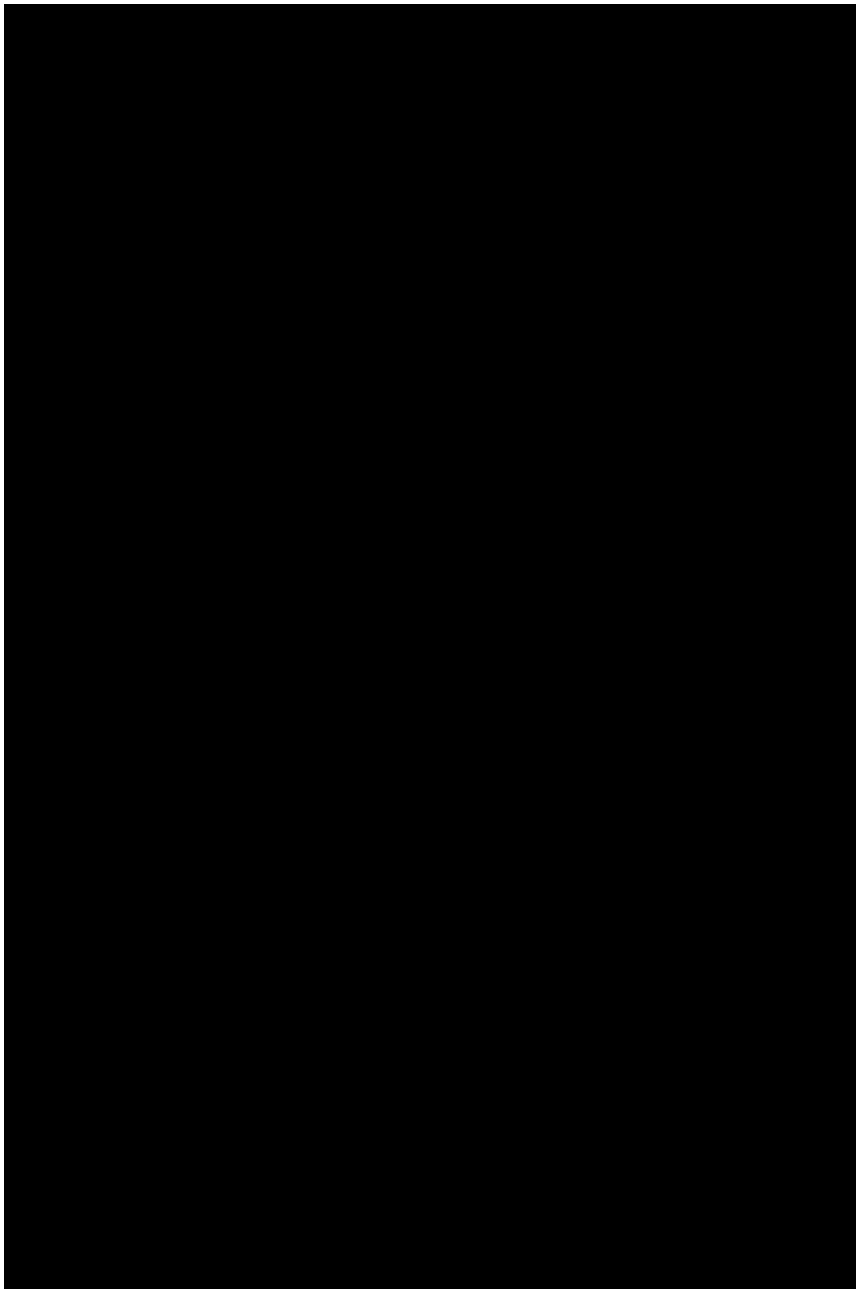
Table 5: Construction Timeline – Direct Examinations

Construction Start Date	[redacted]	
Construction Completion Date		

Table 6: Construction Timeline – IRC

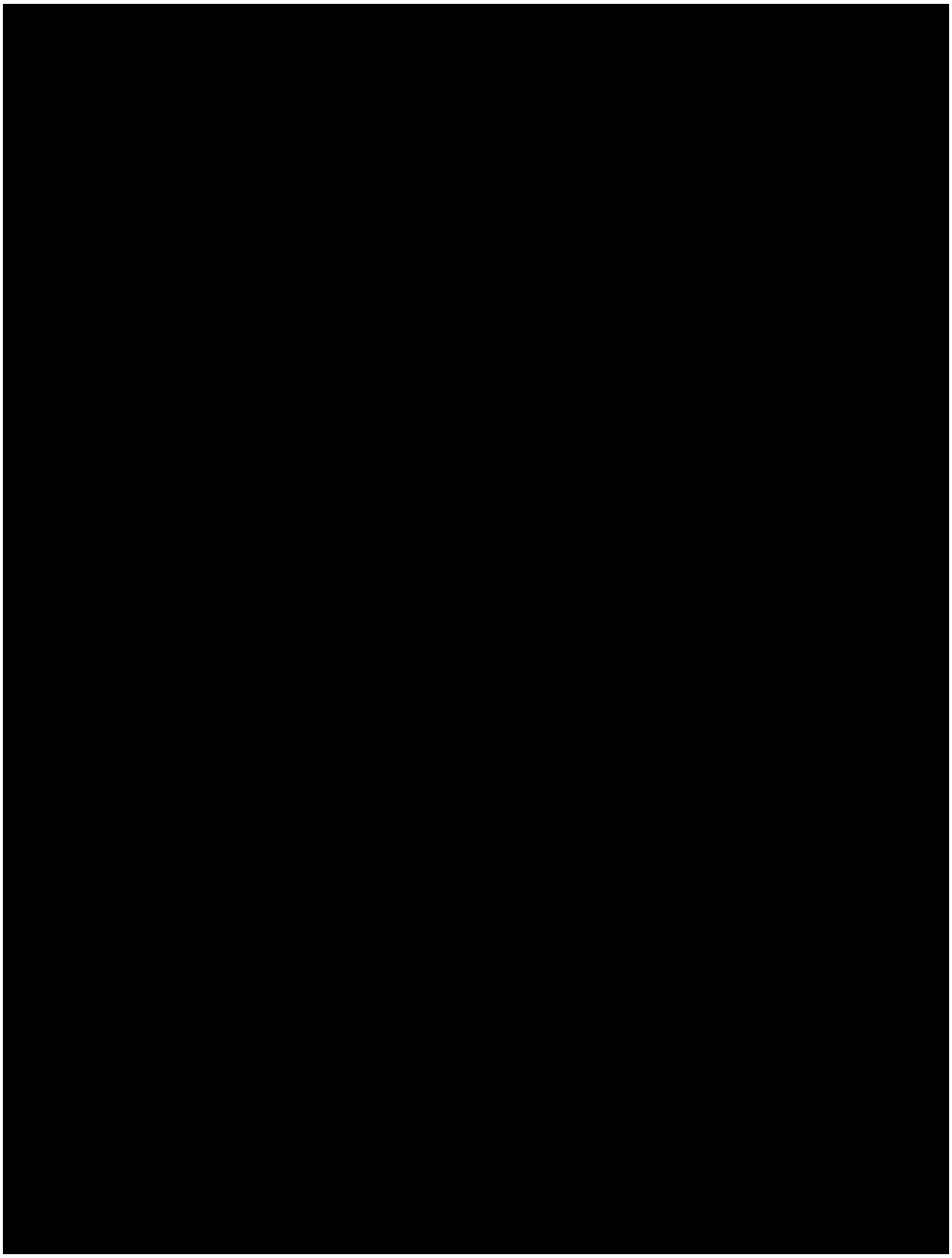
IRC Discovery Date – Site #1, #3, #4	[redacted]	
Repair Date – Site #1, #3, #4		

Figure 2: Direct Examination Site #5 Before Repairs



Final Workpaper for Supply Line 49-16 [redacted] TIMP Project

Figure 3: Direct Examination Site #6 After Repairs



Final Workpaper for Supply Line 49-16 [redacted] TIMP Project

Figure 4: Direct Examination Site #4 Before Repairs

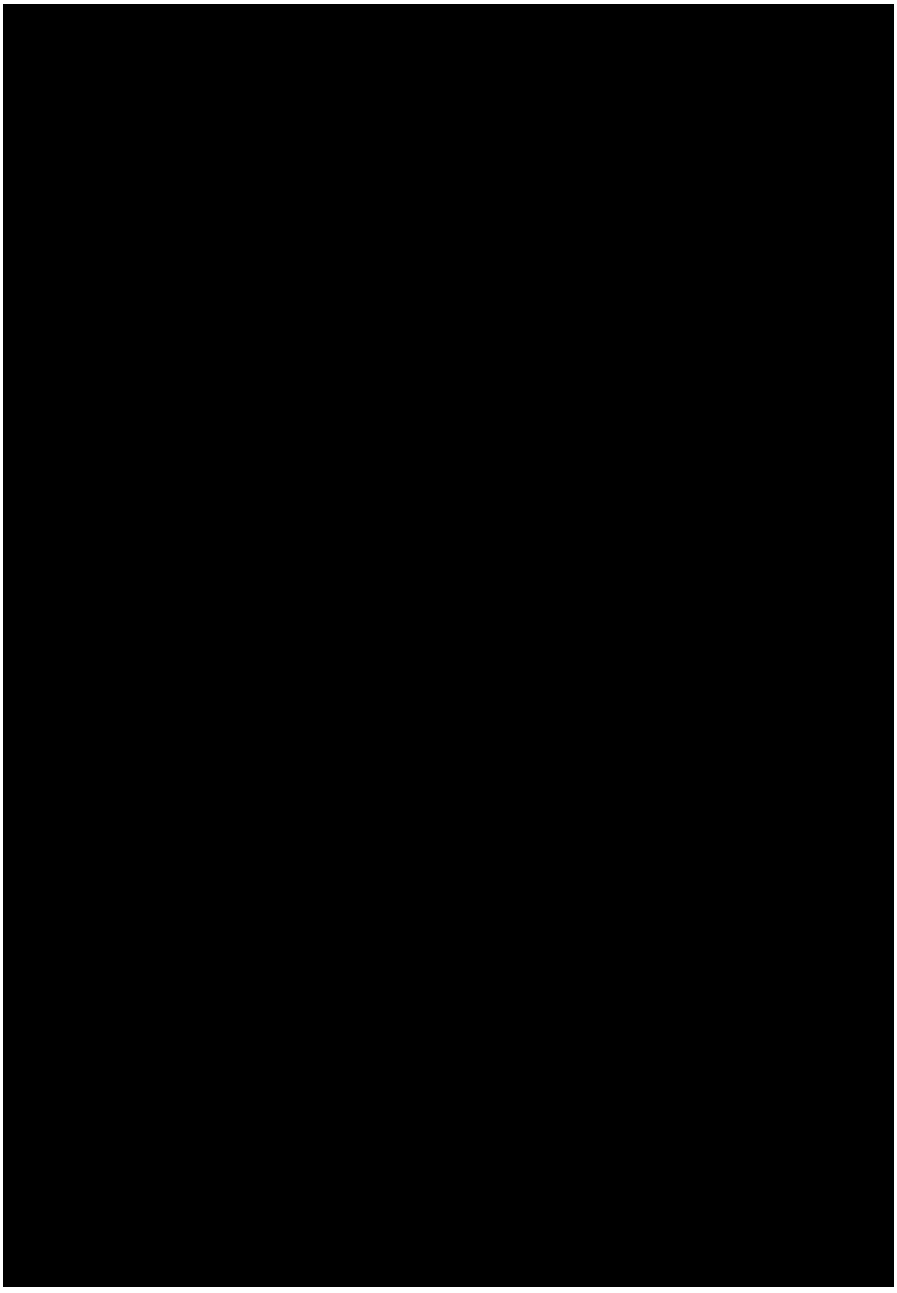
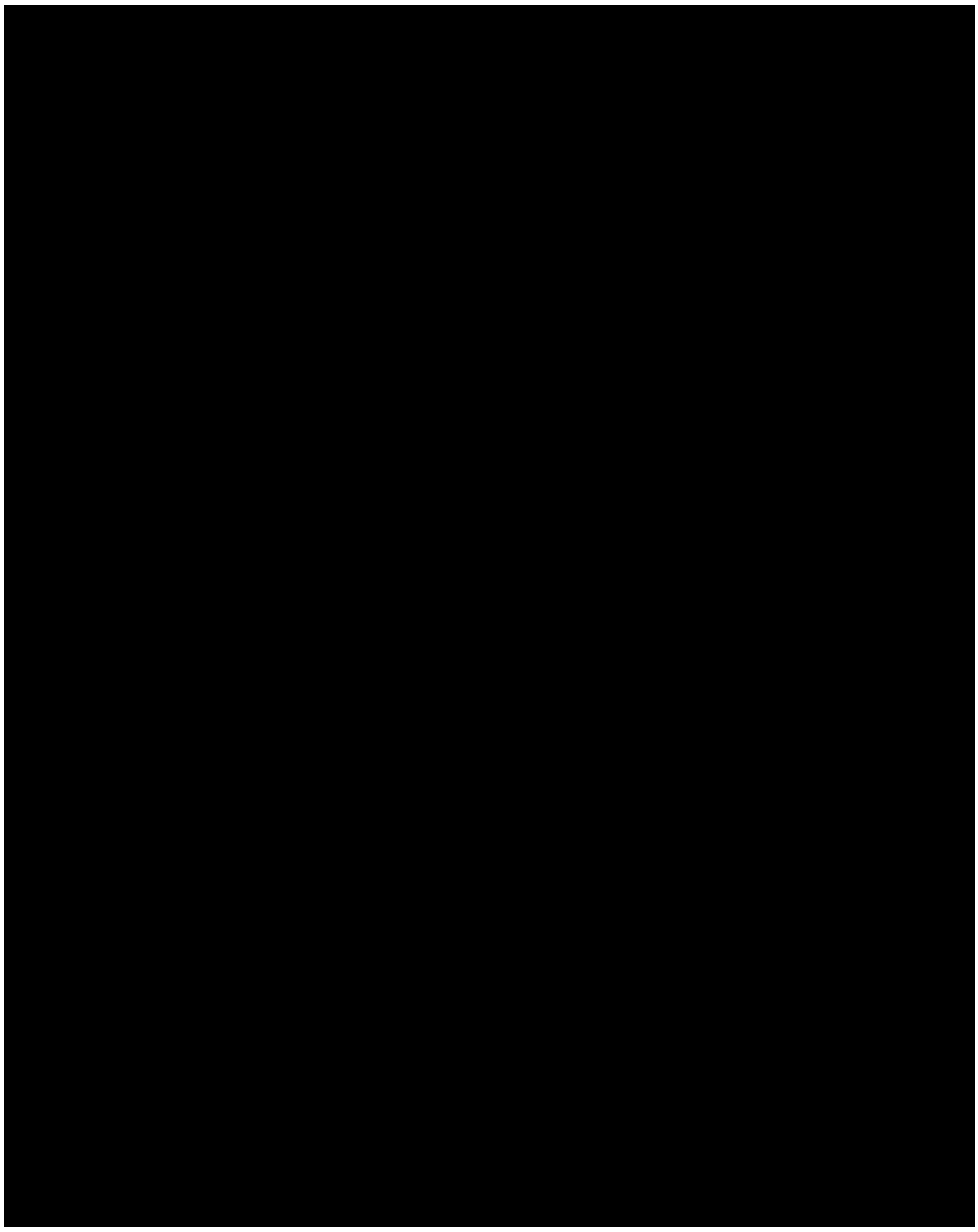


Figure 5: Direct Examination Site #4 After Repairs



C. Commissioning and Site Restoration

Commissioning activities included restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the project plan and design. Specific examples of cost efficiency actions taken on this Project were:

1. Schedule Coordination: The Project Team coordinated with another SDG&E project to utilize an open excavation for the installation of a [redacted].

B. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $6,977,580.

Table 7: Actual Direct Costs[3,4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	107,823	36,081	143,904
Contract Costs	3,320,035	163,465	3,483,500
Material	80,096	135	80,232
Other Direct Charges	210,398	258,641	469,039
Total Direct Costs	3,718,353	458,322	4,176,675

Table 8: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	2,723,937	17,066	2,741,003
AFUDC	19,701	0	19,701
Property Taxes	40,202	0	40,202
Total Indirect Costs	2,783,840	17,066	2,800,905

Table 9: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	6,502,193	475,388	6,977,580

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Capital Contract Costs of $738,066 were reclassified from Capital to O&M in July 2024. This is not shown in the table due to the timing of the adjustment occurring after December 31, 2023.
[4] Values may not add to total due to rounding.
[5] Ibid.
[6] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-16 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $6,977,580.

End of Supply Line 49-16 [redacted] TIMP Project Final Workpaper

I. SUPPLY LINE 49-18 [redacted] TIMP PROJECT

A. Background and Summary

Supply Line 49-18 41st Street Transmission Integrity Management Program (TIMP) project assessed a [redacted] diameter line that runs approximately 0.3 miles from south of [redacted] through residential neighborhoods. The pipeline is routed across a [redacted] location with 0.2 miles within High Consequence Area (HCA) and 0.1 miles within a non-HCA. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to two sites, of which one site contained Immediate Repair Conditions (IRCs). The activities were located in the City of San Diego. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $1,871,024.

SDGE

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	49-18
Segment	[redacted]
Inspection Type	[redacted] Tool
Location	San Diego
Class	[redacted]
HCA Mileage	0.2 miles
Vintage	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

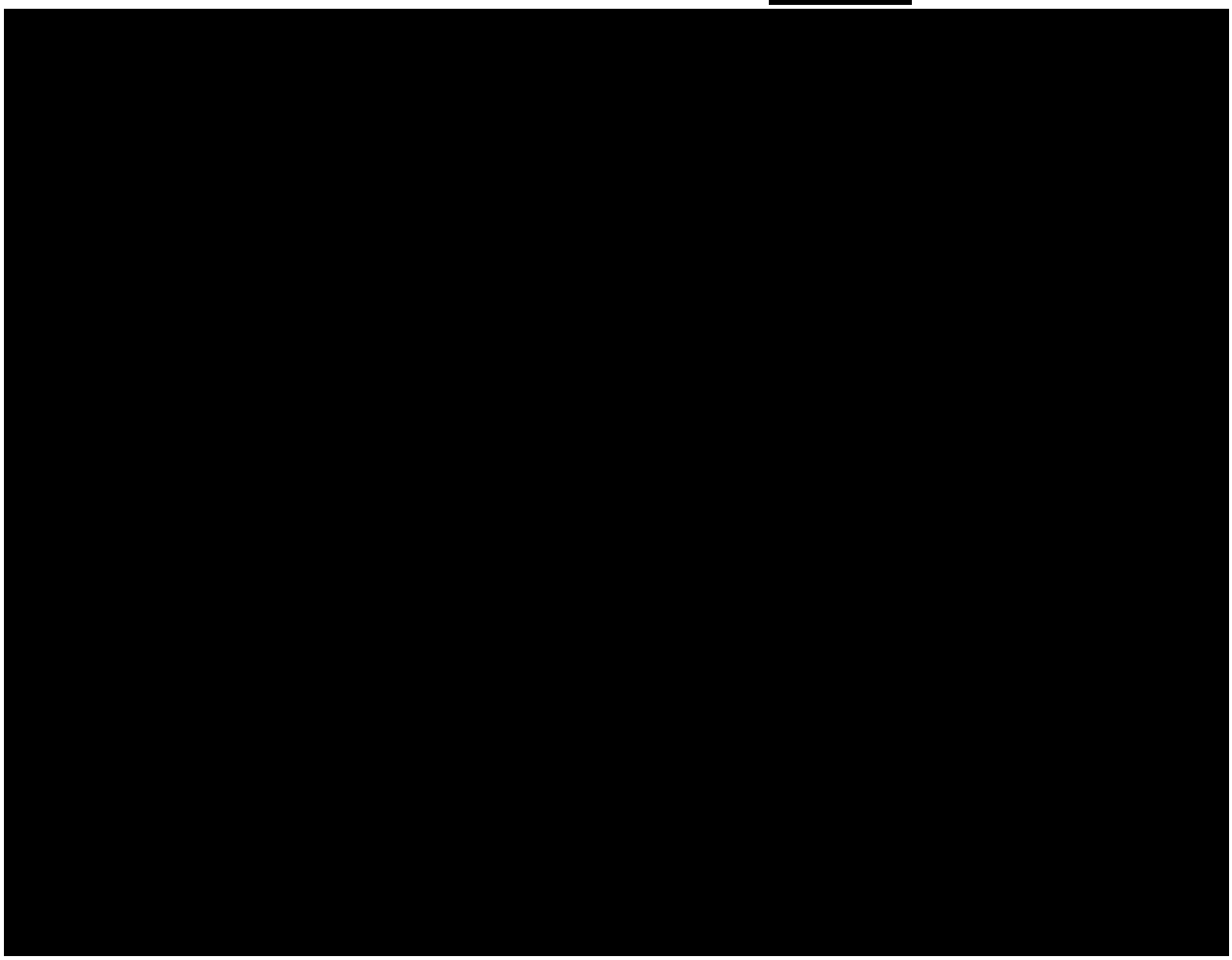
Table 1: General Project Information (Continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	No Repair		
Within HCA	Yes		
Repair Date	N/A		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,244,574	626,450	1,871,024

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Supply Line 49-18 [redacted] TIMP Project.



II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Supply Line 49-18 [redacted] for first-time Inspection using [redacted].
   a. [redacted] from a launcher and receiver site on [redacted]
   b. The Project Team permanently installed a [redacted] to facilitate the ILI.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using [redacted], two Direct Examination sites were identified to assess pipeline segments for validation.
   a. Direct Examination Site #1 consisted of a 20-foot replacement.
   b. Direct Examination Site #2 consisted of no repairs.
   c. The Project identified one Direct Examination Site containing Immediate Repair Conditions (IRCs).
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and two Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
49-18	0.3 mi	[redacted]	[redacted]	[redacted]	Yes

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
49-18	1	Yes	Yes	35 ft	Replacement	20 ft	Capital
49-18	2	Yes	No	15 ft	No Repair	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Supply Line 49-18 [redacted] TIMP Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The [redacted] was launched and received at the same temporary site using the new [redacted]. This Project inspected from south of [redacted]

[1] [redacted]

2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized a [redacted] during the Inspection of the pipeline.
6. Inspection Retrofits: The Project Team installed a [redacted] to facilitate the ILI.
7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
8. Customer Impacts: No customer impacts.
9. Community Impacts: The Project impacted traffic and caused occasional noise. The Project team coordinated with a nearby school and scheduled the Project during Spring Break to reduce the impact of construction.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: No identified impacts.
12. Permit Restrictions: The Project Team required a City of San Diego Encroachment Permit for the installation of the [redacted].
13. Land Use: The Project Team utilized property owned by the construction contractor in San Marcos as a laydown yard.

[2] [redacted]

14. Traffic Control: The Project Team obtained a Traffic Control Plan (TCP) for the installation of the [redacted]. One section of the lane closest to the excavation on [redacted] was closed during working hours. Temporary no parking signs were placed in the blocked off area in advance of construction.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment:
   a. There were two Direct Examination Sites selected for validation of the ILI within the Supply Line 49-18 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of a 20-foot replacement.
      ii. Direct Examination Site #2 consisted of no repairs.
2. SRC/IRC: Direct Examination Site #1 contained IRCs and required an expedited project schedule.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: The Project had minimal community impact because the sites were in an area that did not require traffic control.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: No identified impacts.
8. Permit Restrictions: No identified impacts.
9. Land Use: The Project Team utilized property owned by the construction contractor in San Marcos as a laydown yard.

10. Traffic Control: The Project Team required part of the dead-end street to be blocked off to allow for SDG&E parking. The traffic impact was minimal.
11. Other Identified Risks: Direct Examination Site #1 initially required two repair bands and soft pad repairs. Unavoidable weather conditions and the expedited construction schedule due to the IRCs resulted in the failures of both repair bands, which required a replacement of the pipeline segment.
12. Constructability: The Project Team initially identified an IRC at Direct Examination Site #2, but after validation it was determined that no repairs were necessary.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

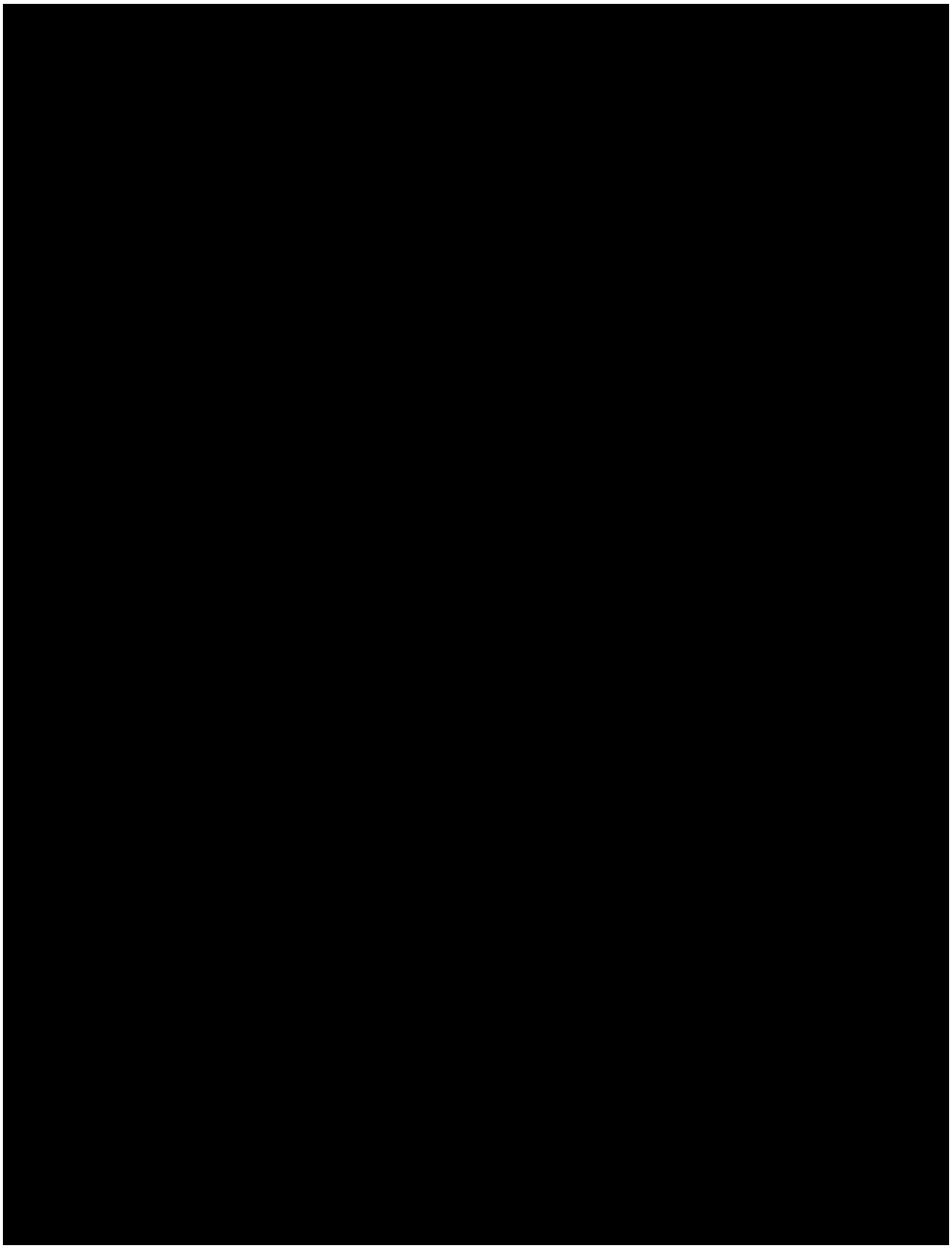
Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Table 6: Construction Timeline – IRC

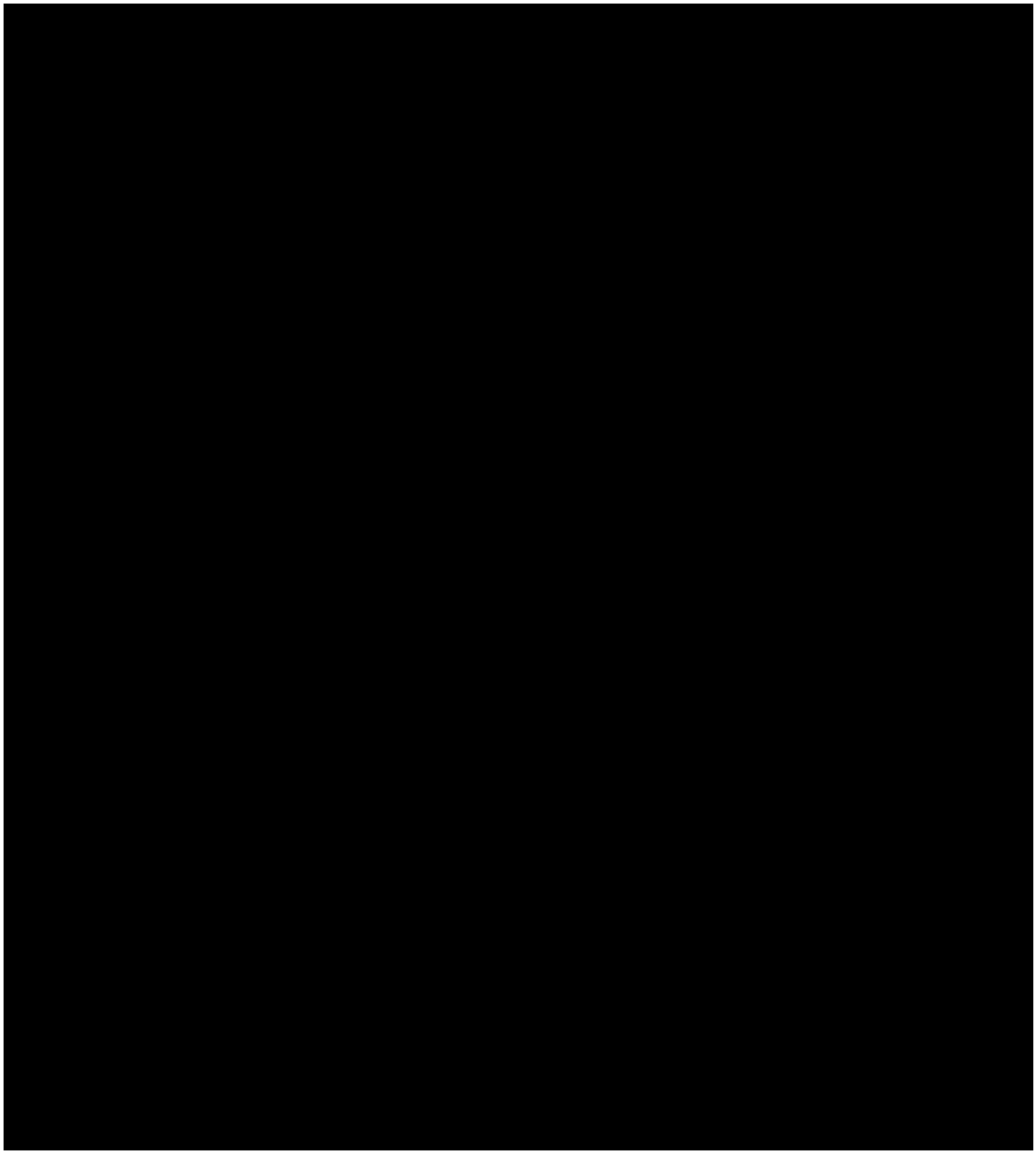
IRC Discovery Date – Site #1	[redacted]	
Repair Date – Site #1		

Figure 2: [redacted] Installation Backfill



Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Figure 3: Direct Examination Site #1 Asphalt Removal



Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Figure 4: Restoration of Direct Examination Site #1

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation, and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the project plan and design.

B. Actual Costs[3]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $1,871,024.

Table 7: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	76,376	34,792	111,168
Contract Costs	522,290	161,195	683,485
Material	12,594	746	13,340
Other Direct Charges	82,000	213,917	295,916
Total Direct Costs	693,260	410,650	1,103,909

Table 8: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	546,958	215,800	762,759
AFUDC	95	0	95
Property Taxes	4,261	0	4,261
Total Indirect Costs	551,314	215,800	767,115

Table 9: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,244,574	626,450	1,871,024

[3] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[4] Values may not add to total due to rounding.
[5] Ibid.
[6] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-18 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines: determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $1,871,024.

End of Supply Line 49-18 [redacted] TIMP Project Final Workpaper

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

I. SUPPLY LINE 49-18 [redacted] TIMP PROJECT

A. Background and Summary

Supply Line 49-18 [redacted] Transmission Integrity Management Program (TIMP) Project assessed covered segments (i.e. High Consequence Areas (HCAs)) of a predominately [redacted] diameter transmission line that runs approximately 8.1 miles from [redacted], through residential neighborhoods and commercial areas. The Project also assessed three segments of the pipeline using the [redacted] assessment method. The pipeline is routed across [redacted] locations with 6.8 miles within HCAs and 1.3 miles within non-HCAs. This Workpaper describes the activities and costs associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to five sites, of which four sites contained Immediate Repair Conditions (IRCs). The Workpaper activities were located in impacted cities of San Diego and National City. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $42,656,183.

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	49-18
Segment	[redacted]
Inspection Type	[redacted] Tools
Location	San Diego and National City
Class	[redacted]
HCA Length	6.8 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	Band
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]
Direct Examination Details	
Site	3
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]

[redacted]

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	4
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter	
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	5
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Repair Bands
Within HCA	Yes
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter	
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

Project Costs ($)	Capital	O&M	Total
Loaded Project Costs	31,129,502	11,526,682	42,656,183

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Supply Line 49-18 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Supply Line 49-18 for first-time Inspection using [redacted]. Assessment of individual pipeline casings for Supply Line 49-18 have been completed using ILI in the past, however, updates in regulations[2] activated the [redacted]. In order to address this threat, a first-time ILI of Supply Line 49-18 and the necessary retrofits to facilitate the Inspection were performed.
   a. Due to system constraints making the use of [redacted] tools infeasible, the Project Team utilized [redacted] tools from multiple temporary launcher and receiver sites at various locations along the pipeline alignment, separated into eight segments for constructability.
   b. The Project installed ten new [redacted] and used four existing [redacted] as entry and exit locations for the [redacted] tool.
   c. The Project installed 14 new [redacted] and used one existing [redacted] tools during the Inspection.
   d. Four [redacted] Main Line Valve (MLV) replacements were completed.

[redacted]

2. Direct Examination – Engineering, Design, and Constructability: Five Direct Examination sites were identified to either assess pipeline segments that could not accommodate an ILI tool or for validation.
   a. Direct Examination Site #1 consisted of a repair band.
   b. Direct Examination Site #2 consisted of a 3-foot replacement.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of a band repair and soft pad repairs.
   e. Direct Examination Site #5 consisted of two band repairs.
   f. The Project identified four Direct Examination sites containing IRCs.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in additional examinations that will be addressed after 2023.
4. Final Project Scope: The final project scope of this Workpaper includes Inspections using [redacted] and five Direct Examinations.

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Table 2: Final Inspection Project Scope – ILI

		Final Project Scope			
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
49-18	1.0 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	1.4 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	1.0 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	1.9 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.6 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.2 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.3 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	1.4 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.9 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	1.4 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	1.0 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	1.8 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.6 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.2 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.3 mi	[redacted]	[redacted]	[redacted]	Yes
49-18	0.9 mi	[redacted]	[redacted]	[redacted]	Yes

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC /IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
49-18	1	Yes	Yes	10 ft	Band	N/A	Capital
49-18	2	Yes	Yes	5 ft	Replacement	3 ft	Capital
49-18	3	Yes	No	47 ft	Soft Pad	N/A	O&M
49-18	4	Yes	Yes	28 ft	Band, Soft Pad	N/A	Capital
49-18	5	Yes	Yes	18 ft	Bands	N/A	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Supply Line 49-18 [redacted] to National City Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The Project addressed eight HCA segments that were each inspected using [redacted] tools. Each segment included various launcher and receiver configurations along the pipeline route using 14 [redacted] locations and 14 [redacted]. The majority of locations were situated in the public street Right of Way (ROW).
2. HCA Threats:
   [redacted]

[redacted]

3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies:
   a. The Project utilized two [redacted] tools during the Inspection of the pipeline:
      [redacted]
   b. The Project included a total of 16 [redacted] Runs.
   c. The Project required three [redacted] re-runs due to various factors outlined in the Other Identified Risks section below.
6. Inspection Retrofits: The Project required significant retrofit work to assess the pipeline which included:
   a. The Project Team excavated various locations along the pipeline alignment and installed 10 new [redacted] and 14 [redacted] to facilitate the [redacted].
   b. The Project Team was required to replace four Main Line Valves (MLVs) to enhance the piggability of the pipeline. This included replacing four [redacted] unpiggable plug valves with four [redacted] piggable ball valves.
7. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.

[redacted]

8. Customer Impacts: The Project Team determined that customer service could be maintained to core and non-core customers utilizing [redacted] during the main line valve retrofits and [redacted] methods for the assessment.
9. Community Impacts: The Project impacted traffic and caused occasional noise as many [redacted] and [redacted] were situated in the street. [redacted] operations required 24-hour workdays until the assessment was completed.
10. Substructures: The Project Team identified multiple utilities prior to construction and included them in the Project design.
11. Environmental: No identified impacts.
12. Permit Restrictions: The Project Team obtained approximately 380 permits or permit extensions to complete the Inspection phase of the Project. Individual permits had varying work hour requirements that the Project Team was required to adhere to. The types of permits included:
    a. Encroachment Permits from the City of San Diego.
    b. Sidewalk Blockage Permits from the City of San Diego.
    c. Noise Permits from the City of San Diego.
13. Land Use: The Project Team utilized nearby Company locations as laydown yards.
14. Traffic Control: The majority of launcher and receiver locations, [redacted], and valve replacement locations required significant traffic control. Traffic control measures were site specific and had varying requirements including but not limited to lane closures, flaggers, recessed steel plating, coordination with nearby property owners, no parking areas, traffic signage and signals, and the temporarily relocation of bus stops.
15. Constructability:
    a. The Supply Line 49-18 assessment originally consisted of two casings that required Inspection. As regulations evolved, the Project Team worked diligently to coordinate and execute the existing casing assessments consistent with the newly required first-time ILI.

b. The Project Team installed an additional [redacted] to support the replacement of an MLV. This reduced the overall isolation length and limited system impacts.
c. During construction, the Project Team identified an additional 500 foot of Inspection scope that needed to be incorporated into the Project. This required an ILI run to assess the footage.
d. The Project Team utilized [redacted] to ensure all the required pipeline segments were assessed.
e. The Project Team was required to install concrete caps over six [redacted] as a protective measure.
f. Due to the [redacted] distances, construction during this activity was executed using a 24-hour work schedule.
g. Direct Examination sites were conducted during the Inspection phase of the Project.

16. Other Identified Risks:
    a. When removing an existing support at one of the MLV locations, a leak was detected and required immediate remediation of the valve to accomplish the repair. The Project Team installed a pipe segment in the interim while the new valve assembly was completed. Once the valve assembly was finished, the Project Team replaced the temporary pipe with the new valve. This unanticipated leak required an additional isolation and tie-in operation.
    b. During construction, the Project Team determined that the [redacted] originally planned to be used for an Inspection could not be tapped due to a manufacturer defect. The Project Team then reassessed the situation and was able to utilize the Direct Examination Site #2 location as an entry point for the ILI tool.
    c. An Inspection segment required additional ILI runs due to weld sensor issues on the tool as well as challenges with malfunctioning generators and charge station equipment, which resulted in approximately a week delay.

d. While performing an ILI tool run, an orifice meter was located that the ILI tool was unable to traverse through. This required the Project Team to isolate the line and perform a cut-out of the meter to complete the ILI.
e. The [redacted] encountered liquids which made a segment of the pipeline impassable. The Project Team had to execute Direct Examination Site #3 to assess this segment.
f. During an Inspection, the [redacted] encountered liquids. The Project Team had to remove the ILI tool and launch it from a different access location to complete the Inspection of this segment.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment:
   a. SDG&E completed the Direct Examination for the Supply Line 49-18 [redacted] TIMP Project using a validation spool piece.
   b. There were three [redacted] Sites selected to assess pipeline segments that could not accommodate an ILI tool. Two of these sites were determined to contain IRCs after examination within the Supply Line 49-18 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of repair band.
      ii. Direct Examination Site #2 consisted of a 3-foot replacement.
      iii. Direct Examination Site #3 consisted of a soft pad repairs.
   c. There were two Direct Examination Sites selected to confirm IRCs identified by the ILI within the Supply Line 49-18 [redacted] TIMP Project.
      i. Direct Examination Site #4 consisted of a band repair and soft pad repairs.
      ii. Direct Examination Site #5 consisted of a two band repairs.

   d. Additional Direct Examination sites will be identified for validation of the [redacted] tool and addressed after 2023.

2. SRC/IRC: Direct Examination Sites #1, #2, #4, and #5 contained IRCs and required expedited project schedules.
3. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: The Project had traffic impacts and occasional noise at Direct Examination Sites #1, #2, #4, and #5 due to these sites located in the roadway.
6. Substructures: The Project Team identified multiple utilities during construction through marking, locating, and potholing activities.
7. Environmental: No identified impacts.
8. Permit Restrictions:
   a. City of San Diego Sidewalk Blockage Permit for Direct Examination Sites #1, #2, and #5
   b. City of San Diego Encroachment Permit for Direct Examination Sites #4 and #5
9. Land Use: No identified impacts.
10. Traffic Control:
   a. Direct Examination Sites #1 and #2 required minor traffic control that included cones and signage as the locations were near a roadway.
   b. Direct Examination Site #3 required one lane closure on [redacted]. The traffic control included signs, barricades, cones, flashing lights, and Flaggers to direct traffic.
   c. Direct Examination Site #4 required one lane closure on [redacted]. The traffic control included signs, cones, and Flaggers to assist pedestrians as needed and maintain accessibility to driveways.
   d. Direct Examination Site #5 required multiple lane closures on [redacted]. The traffic control included signage and cones to direct traffic.

11. Constructability:
    a. While executing Direct Examination Site #1, the Project Team identified a short segment of pipe on the opposite side of a [redacted]. After further engineering review, the Project Team determined this segment also required assessment and it was incorporated into the Project as Direct Examination Site #2.
    b. Direct Examination Site #3 required excavation work to be performed utilizing a hydro vacuum truck due to multiple other utilities being in the area and the hill side location which made it hazardous to excavate using traditional methods.
    c. The Project Team completed the Direct Examination Sites concurrently with the Inspection phase of the Project.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in additional examinations that will be addressed after 2023.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]
Construction Completion Date	

Table 6: Construction Timeline – IRCs

IRC Discovery Date – Site #1	[redacted]
Repair Date – Site #1	
IRC Discovery Date – Site #2	
Repair Date – Site #2	
IRC Discovery Date – Site #4	
Repair Date – Site #4	
IRC Discovery Date – Site #5	
Repair Date – Site #5	

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Figure 2: [redacted] Installation

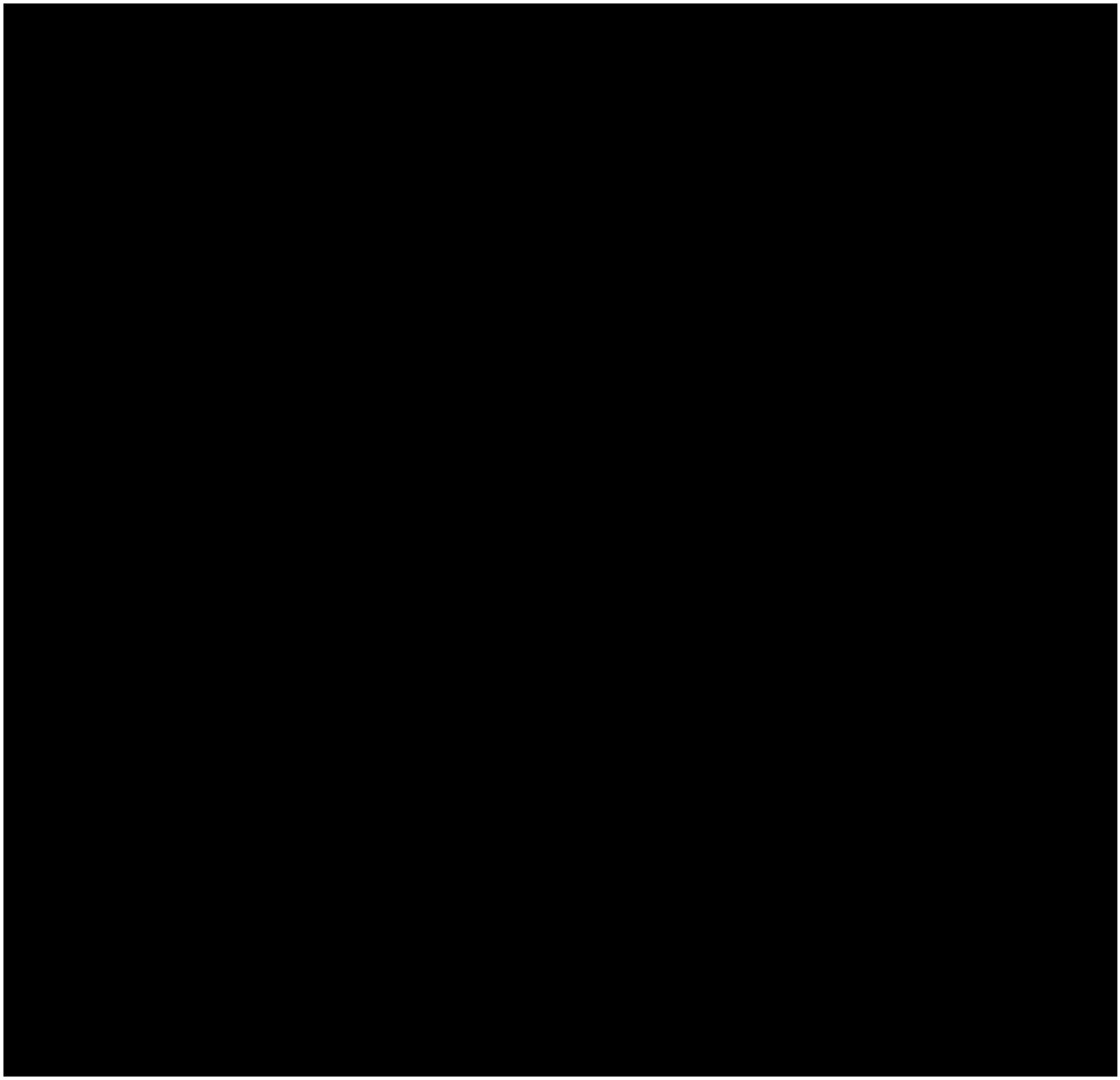
Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Figure 3: [redacted]

Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Figure 4: [redacted]

Figure 5: Direct Examination Site #3 Excavation



Final Workpaper for Supply Line 49-18 [redacted] TIMP Project

Figure 6: Direct Examination Site #3 Hydro Vacuum Truck Excavation

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the Project plan and design. Specific examples of cost efficiency actions taken on this Project were:

1. Construction Execution: The Project Team was able to utilize an existing fitting at Direct Examination Site #2 as an entry point for the ILI tools.

B. Actual Costs[4]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $42,656,183.

Table 7: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	821,955	364,773	1,186,728
Contract Costs	22,551,879	7,062,547	29,614,426
Material	1,399,208	0	1,399,208
Other Direct Charges	2,979,187	3,831,233	6,810,420
Total Direct Costs	27,752,229	11,258,553	39,010,782

Table 8: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	2,045,047	268,129	2,313,175
AFUDC	268,515	0	268,515
Property Taxes	1,063,711	0	1,063,711
Total Indirect Costs	3,377,272	268,129	3,645,401

Table 9: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	31,129,502	11,526,682	42,656,183

[4] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[5] Values may not add to total due to rounding.
[6] Ibid.
[7] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-18 [redacted] TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the continual identification of threats to its pipelines: determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $42,656,183.

End of Supply Line 49-18 [redacted] TIMP Project Final Workpaper

I. SUPPLY LINE 49-24 [redacted] TIMP PROJECT

A. Background and Summary

Supply Line 49-24 [redacted] Transmission Integrity Management Program (TIMP) assessed 0.5 miles of a [redacted] diameter line that runs along [redacted], through residential neighborhoods. The Project also assessed two short segments of [redacted] pipeline associated with Supply Line 49-24 using the [redacted] assessment method. The pipeline is routed across a [redacted] location with 0.5 miles within High Consequence Areas (HCAs) and 53 feet within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to two sites. These activities were located in the City of Chula Vista. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $3,304,086.

SDGE

Final Workpaper for Supply Line 49-24 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	49-24
Segment	[redacted]
Inspection Type	[redacted] Tools
Location	Chula Vista
Class	[redacted]
HCA Mileage	0.5 miles
Vintage	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values ranging from [redacted]
Construction Start	[redacted]
Construction Completion	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start	[redacted]
Construction Completion	[redacted]
Due Date	[redacted]

[1] *See* PHMSA, *Gas Transmission Integrity Management: FAQs, Continual Assessment and Evaluation FAQ, No. FAQ-41* (August 2021) at 32, *available at* (https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2021-09/Final%20GAS%20IM%20FAQs%208-26-21.pdf). "Effective January 3, 2012, the maximum interval may be set using the specified number of calendar years."

Final Workpaper for Supply Line 49-24 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start	[redacted]		
Construction Completion	[redacted]		
Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,365,046	1,939,040	3,304,086

[2] *See* PHMSA, *Gas Transmission Integrity Management: FAQs, Continual Assessment and Evaluation FAQ, No. FAQ-41* (August 2021) at 32, *available at* (https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2021-09/Final%20GAS%20IM%20FAQs%208-26-21.pdf). "Effective January 3, 2012, the maximum interval may be set using the specified number of calendar years."

Final Workpaper for Supply Line 49-24 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Supply Line 49-24 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Inspections and Direct Examination.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the project. The final scope of this Project is summarized in Tables 2 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SDG&E identified Supply Line 49-24 [redacted] for first-time Inspection using [redacted].
   a. [redacted] from a temporary launcher and receiver site [redacted]
   b. The Project Team installed a permanent [redacted] to facilitate the Inspection.
   c. The Project Team replaced approximately eight feet of pipe to remove an unbarred tee and associated lateral to facilitate future Inspections.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using [redacted]:
   a. Validation was completed on a validation spool piece and no additional Direct Examinations were required for validation.
   b. Two Direct Examination sites were identified to assess pipeline segments that could not accommodate an ILI tool:
      i. Direct Examination Site #1 consisted of soft pad repairs.

ii. Direct Examination Site #2 consisted of soft pad repairs.

3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the spool piece following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and two Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
49-24	0.5 mi	[redacted]	[redacted]	[redacted]	Yes
49-24	0.5 mi	[redacted]	[redacted]	[redacted]	Yes

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
49-24	1	Yes	No	14 ft	Soft Pad	N/A	O&M
49-24	2	Yes	No	16 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SDG&E initiated the planning process for the Supply Line 49-24 [redacted] TIMP Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods,

and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The Project consisted of a [redacted] of Supply Line 49-24 through a temporary launcher and receiver site.
2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted].
4. Longseam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized [redacted] technology during the Inspection of the pipeline.
6. Inspection Retrofits: The Project required the following permanent retrofits:
   a. Installation of a permanent [redacted] to facilitate the [redacted]
   b. Replacement of approximately eight feet of pipe to remove an unbarred tee and associated lateral within the segment to facilitate future Inspections.
7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Inspection could be completed without system impacts.
8. Customer Impacts: No customer impacts.
9. Community Impacts: The Project Team required outreach communication detailing construction activities to nearby residents and schools.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: No identified impacts.
12. Permit Restrictions: The Project Team obtained an approved Utility Permit from the City of Chula Vista for the removal of an unbarred tee and associated lateral retrofit.

13. Land Use: The Project Team utilized nearby company facilities as laydown yards.
14. Traffic Control: The Project Team obtained Traffic Control Plan (TCP) approval from the City of Chula Vista requiring the following:
    a. Intersection lights at the Project sites to be set to flashing red mode.
    b. Recessed steel plates placed over open trenches during non-working hours.
    c. Temporary signage.
    d. Coordination with nearby businesses and property owners.
15. Schedule Delay: The Project experienced a three week delay due to unforeseen circumstances on another SDG&E project and the possibility of system constraints occurring at the time of construction.
16. Constructability:
    a. The Project Team coordinated with another SDG&E Project to install the permanent [redacted] within an existing excavation.
    b. The two locations that required assessment using the [redacted] were conducted during the Inspection Phase of the Project.

C. Engineering, Design, and Constructability Factors – Direct Examination

SDG&E reviewed Inspection reports, completed various site evaluations, and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment:
    a. Following the completion of the Inspection using ILI, analysis was completed on a validation spool piece and resulted in no additional examinations.
    b. There were two [redacted] Sites selected to assess pipeline segments that could not accommodate an ILI tool due to impassable features within the Supply Line 49-24 [redacted] TIMP Project.
        i. Direct Examination Site #1 consisted of soft pad repairs.
        ii. Direct Examination Site #2 consisted of soft pad repairs.

iii. The Project Team completed these Direct Examinations during the Inspection Phase of the Project.

2. SRC/IRC: There were no Safety Related Conditions (SRCs) or Immediate Repair Conditions (IRCs) identified during the Direct Examinations.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: The Project Team required outreach communication detailing construction activities to nearby residents and schools.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained an approved Utility Permit from the City of Chula Vista for the [redacted] Sites.
9. Land Use: The Project Team utilized nearby company facilities as laydown yards.
10. Traffic Control: The Project Team obtained a TCP approval from the City of Chula Vista requiring the following:
    a. Intersection lights at the Project sites to be set to flashing red mode.
    b. Recessed steel plates placed over open trenches during non-working hours.
    c. Temporary signage.
    d. Coordination with nearby businesses and property owners.
    e. The TCPs restricted work hours for [redacted] Site #1 from 10:00 PM to 5:00 AM.
    f. The TCPs restricted work hours for [redacted] Site #2 from 8:00 AM to 4:00 PM.

D. Engineering, Design, and Constructability Factors – Post-Assessment

During the Post-Assessment step, the Project Team will use the data collected from the Inspection and future Direct Examinations to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis is still pending and will be used to determine if additional examinations are required to enhance the overall integrity and safety of the pipeline.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]
Construction Completion Date	

Final Workpaper for Supply Line 49-24 [redacted] TIMP Project

Figure 2: Temporary Launcher and Receiver

Final Workpaper for Supply Line 49-24 [redacted] TIMP Project

Figure 3: Direct Examination Site #1

Final Workpaper for Supply Line 49-24 [redacted] TIMP Project

Figure 4: Direct Examination Site #2

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Cost Efficiency Actions

SDG&E executed the design, planning, and construction activities for this Project to minimize or avoid costs where appropriate. As discussed above, the Project Team reviewed existing information, communicated with external stakeholders, and conducted a site evaluation to incorporate the site conditions in the Project plan and design. Specific examples of cost efficiency actions taken on this Project were:

1. Project Design: The Project design initially planned for two excavations: one for installation of a [redacted] and another for installation of a [redacted] to facilitate the [redacted]. The Project Team re-evaluated the design and changed the location for [redacted] installation, eliminating the need for a [redacted] and reducing the number of excavations.
2. Schedule Coordination and Permit Conditions: The Project Team coordinated with another SDG&E project and utilized their existing excavation and permit for the installation of a permanent [redacted] required for the Inspection.
3. Land Use: The Project Team utilized nearby company facilities as laydown yards.
4. Future Maintenance: The Project Team removed an unbarred tee and associated lateral within the segment. This improves future Inspections by making the pipeline piggable and eliminating the need to complete recurring [redacted] on the associated lateral.

Final Workpaper for Supply Line 49-24 [redacted] TIMP Project

B. Actual Costs[3]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $3,304,086.

Table 6: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	39,261	112,427	151,688
Contract Costs	1,126,627	1,161,102	2,287,729
Material	57,110	1,667	58,777
Other Direct Charges	51,247	626,490	677,737
Total Direct Costs	1,274,245	1,901,686	3,175,931

Table 7: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	79,648	37,354	117,002
AFUDC	8,639	0	8,639
Property Taxes	2,515	0	2,515
Total Indirect Costs	90,801	37,354	128,156

Table 8: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,365,046	1,939,040	3,304,086

[3] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[4] Values may not add to total due to rounding.
[5] Ibid.
[6] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its integrated natural gas system by executing the Supply Line 49-24 [redacted] TIMP Project. Through this Project, SDG&E successfully implemented and managed the requirements set forth in 49 CFR 192, Subpart O, including the objective continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting findings of the assessment. The total loaded cost of the Project is $3,304,086.

End of Supply Line 49-24 [redacted] TIMP Project Final Workpaper

SDG&E TIMP Reasonableness Review

Direct Assessment Project Workpapers

I. LINE 1602 TIMP PROJECT

A. Background and Summary

Line 1602 was assessed along [redacted] in the City of La Mesa. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made at two sites, and the Post-Assessment analysis. The specific attributes of this project are detailed below in General Project Information. The total loaded cost of the Project is $771,911.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	1602		
Assessment Type	[redacted]		
Location	La Mesa		
Class	[redacted]		
HCA Length	0.72 miles		
Project Length	0.72 miles		
Vintage	[redacted]		
Pipe Diameter			
MAOP			
SMYS			
HCA Threats			
Indirect Inspection Completion Date			
Direct Examination Completion Date			
Construction Start Date			
Construction Completion Date			
Assessment Due Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	190,104	581,807	771,911

[redacted]

B. Maps and Images

Figure 1: Line 1602 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, San Diego Gas & Electric (SDG&E) reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Line 1602 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of La Mesa.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
1602	0.72 miles	[redacted]	[redacted]
1602	0.72 miles	[redacted]	[redacted]
1602	0.72 miles	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Indirect Inspection, two Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer impacts: No identified customer impacts.
3. Community impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of La Mesa requirements.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: N/A

[redacted]

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	1602
Mitigation/ Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	1602
Mitigation/ Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Figure 2: Line 1602 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the reassessment interval for the pipeline.

Final Summary

The [redacted] of 0.72 miles on Line 1602 was completed on [redacted] The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	0.72 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Coating Inspection

Figure 4: Direct Examination Site #1 – Direct Examination Location

Figure 5: Direct Examination Site #2- Direct Examination Location

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, transportation, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $771,911.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	3,034	74,287	77,320
Contract Costs	150,257	364,396	514,652
Material	117	0	117
Other Direct Charges	14,153	76,546	90,699
Total Direct Costs	167,560	515,228	682,788

Table 7: Actual Indirect Costs [4]

Indirect Costs ($)	Capital Costs	O&M Costs ($)	Total Actual Costs
Overheads	21,866	66,579	88,445
AFUDC	516	0	516
Property Taxes	162	0	162
Total Indirect Costs	22,543	66,579	89,122

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	190,104	581,807	771,911

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 1602 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $771,911.

End of Line 1602 TIMP Project Final Workpaper

I. LINE 1604 TIMP PROJECT

A. Background and Summary

Line 1604 was assessed along [redacted] in the City of Escondido. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made to three sites, and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $896,475.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	1604		
Assessment Type	[redacted]		
Location	Escondido		
Class	[redacted]		
HCA Length	1.62 miles		
Project Length	1.62 miles		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	0	896,475	896,475

B. Maps and Images

Figure 1: Line 1604 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Line 1604 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of Escondido.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
1604	1.62 miles	[redacted]	[redacted]
1604	1.62 miles	[redacted]	[redacted]
1604	1.62 miles	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Indirect Inspections, three Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer impacts: No identified customer impacts.
3. Community impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of Escondido.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: N/A

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	1604
Mitigation/Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	1604
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	3
Examination ID	[redacted]
Pipeline	1604
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15-feet
Cost Category	O&M

Figure 2: 1604 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the reassessment interval for the pipeline.

Final Summary

The [redacted] of 1.62 miles on Line 1604 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	1.62 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Excavation of Pipeline

Figure 4: Direct Examination Site #1 – Excavation Location

Figure 5: Direct Examination Site #2 – Soft Pad Repair

Figure 6: Direct Examination Site #3 – Bare Pipeline

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[1]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $896,475.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	58,650	58,650
Contract Costs	0	700,941	700,941
Material	0	0	0
Other Direct Charges	0	55,673	55,673
Total Direct Costs	0	815,263	815,263

Table 7: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	79,693	79,693
AFUDC	0	999	999
Property Taxes	0	520	520
Total Indirect Costs	0	81,212	81,212

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	896,475	896,475

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 1604 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $896,475.

End of Line 1604 TIMP Project Final Workpaper

I. LINE 3012 TIMP PROJECT

A. Background and Summary

Line 3012 was assessed from [redacted] Station to the US-Mexican Border in the City of San Diego. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made to two sites, and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $561,590.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	3012		
Assessment Type	[redacted]		
Location	San Diego		
Class	2, 3		
HCA Length	3.64 miles		
Project Length	3.75 miles		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	0	561,590	561,590

B. Maps and Images

Figure 1: Line 3012 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Line 3012 TIMP Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: There was a street/sidewalk blockage approved that created a vehicle lane closure and shut down the bike lane from [redacted] to [redacted] to two locations in the City of San Diego.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of San Diego and County of San Diego.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
3012	3.64 miles	[redacted]	[redacted]
3012	3.64 miles	[redacted]	[redacted]
3012	3.64 miles	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Indirect Inspection, two Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer impacts: No identified customer impacts.
3. Community impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained approval to perform Direct Examinations and followed traffic control plans per the City of San Diego requirements.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: N/A

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	3012
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	24.5 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	3012
Mitigation/Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Figure 2: Line 3012 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 3.64 miles on Line 3012 was completed on [redacted] The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	3.64 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

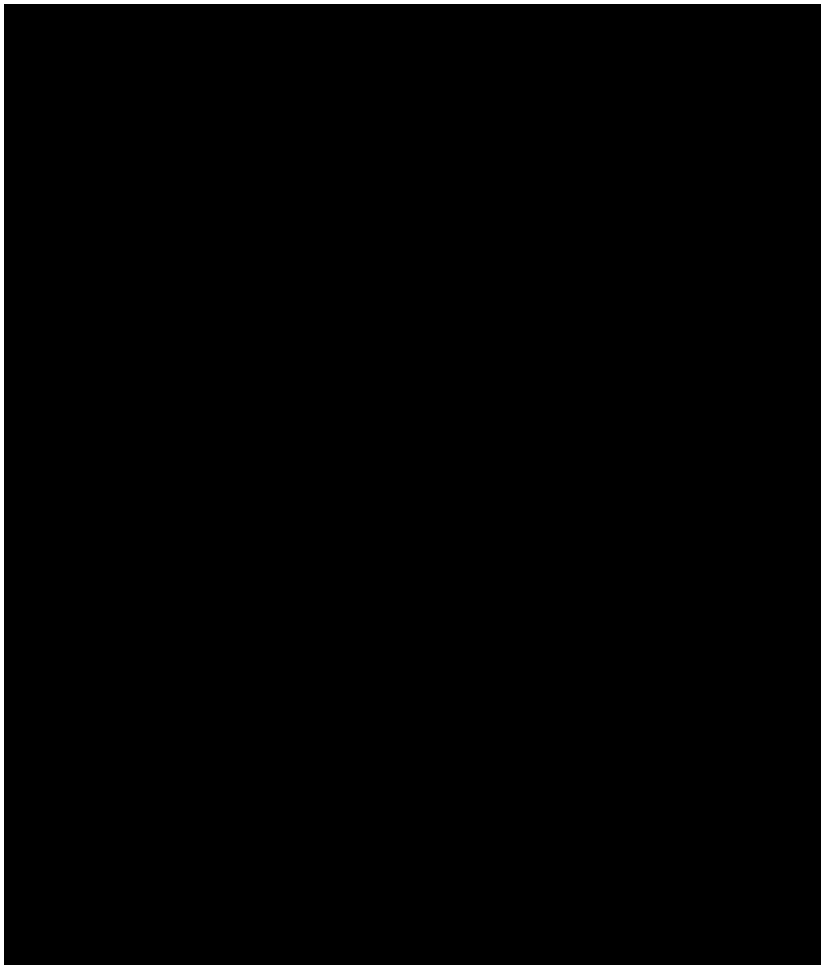
Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Excavation Location

Figure 4: Direct Examination Site #1 – Excavation Location (Bare Pipeline)

Figure 5: Direct Examination Site #2 – Excavation Location



C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[1]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $561,590.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	86,807	86,807
Contract Costs	0	256,921	256,921
Material	0	0	0
Other Direct Charges	0	146,885	146,885
Total Direct Costs	0	490,612	490,612

Table 7: Actual Indirect Costs [3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	70,173	70,173
AFUDC	0	660	660
Property Taxes	0	145	145
Total Indirect Costs	0	70,979	70,979

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	561,590	561,590

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Line 3012 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $561,590.

End of Line 3012 TIMP Project Final Workpaper

I. SUPPLY LINE 49-13 TIMP PROJECT

A. Background and Summary

Supply Line 49-13 was assessed along [redacted] through the cities of El Cajon and Santee. This Workpaper describes the activities associated with three Transmission Integrity Management Program (TIMP) assessment methods: [redacted] and Inspection using In-Line Inspection (ILI) to assess identified threats on Supply Line 49-13. These activities include Indirect Inspection using aboveground surveys for the Direct Assessment methods, pipeline retrofits for ILI, Direct Examinations made to six sites for validation, and Post-Assessment analysis. The specific attributes of this project are detailed below in General Project Information.

The total loaded cost of the Project is $6,625,040.

Table 1: General Project Information

Integrity Assessment Details	
General Project Information	
Pipeline	49-13
Location	El Cajon, Santee
Class	[redacted]
HCA Length	1.62 miles
Vintage	[redacted]
Pipe Diameter	
MAOP	
SMYS	
HCA Threats	
[redacted] **Details**	
Assessment Type	[redacted]
Project Length	1.71 miles
Indirect Inspection Completion Date	[redacted]
Direct Examination Completion Date	
Construction Start Date	
Construction Completion Date	
Assessment Due Date	
[redacted] **Details**	
Assessment Type	[redacted]
[redacted] Length	0.30 miles
Indirect Inspection Completion Date	[redacted]
Direct Examination Completion Date	
Construction Start Date	
Construction Completion Date	
Assessment Due Date	
ILI Assessment Details	
Inspection Type	ILI
ILI Length	860 feet
Construction Start Date	[redacted]
Construction Completion Date	
Final Tool Run Date	
[redacted]	[redacted]

[redacted]

Project Costs ($)	Capital	O&M	Total
Loaded Project Costs	696,697	5,928,343	6,625,040

B. Maps and Images

Figure 1: Supply Line 49-13 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow the four-step assessment process: Pre-Assessment, Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Inspection

SDG&E initiated the planning process for the Supply Line 49-13 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Inspection tools.

Indirect Inspection ([redacted])

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans from the cities of El Cajon and Santee.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-13	1.62 miles	[redacted]	[redacted]
49-13	1.62 miles		
49-13	1.62 miles		
49-13	0.30 miles		
49-13	0.30 miles		
49-13	0.30 miles		
49-13	0.30 miles		

Inspection (ILI)

Key factors that influenced the planning and execution of the Project Inspection are as follows:

1. Site Description:
   a. The Project included a [redacted] of approximately 860 feet of Supply Line 49-13 near [redacted]. A portion of this segment crosses [redacted] under a water channel crossing.
   b. The [redacted] required temporary launcher and receiver sites, each with significant excavation lengths and temporary supports for aboveground cribbed assemblies during the inspection.
   c. The temporary installations included a validation spool piece to complete Direct Examination. Validation analysis of the validation spool piece determined [redacted].
2. Long Seam Type:

[redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the

Inspection. The Inspection tools were [redacted]

4. Inspection Retrofits:
   a. The Project required installation of two [redacted] to isolate the pipeline in preparation for the Inspection. The [redacted] locations required permanent underground supports.
   b. The temporary launching and receiving locations each required replacements and installation of new pipe after [redacted] activities, totaling approximately 63 feet of new [redacted] pipe.
5. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility which concluded a portion of the pipeline required isolation during temporary installations and [redacted] activities. Upon further review, it was determined that this isolation could be completed by adjusting system conditions.
6. Customer Impacts: Due to the compliance date of this segment of Supply Line 49-13 and the assessment completion timelines, the Project Team worked with various stakeholders including the California Public Utilities Commission (CPUC) Safety and Enforcement Division (SED) to provide a proactive risk reduction to the pipeline segment while the assessment activities are completed. It was determined that Supply Line required a [redacted]
7. Community Impacts:
   a. The Project Team collaborated with various internal stakeholders including Regional Public Affairs, Corporate Communications & Marketing, and Customer Services to mitigate community impacts by notifying local businesses and residents of construction activities, project schedules and traffic impacts.
   b. Construction activities and temporary traffic control for the Inspection resulted in the temporary blockage of a nearby driveway. The Project Team coordinated

closely with building stakeholders to communicate updates on project activities and schedules.

8. Substructures: The Project Team encountered unmarked storm drains during excavation activities. Upon review and communication with the City of El Cajon, it was determined the storm drains within the excavation were abandoned and could be removed.
9. Environmental: The Project Team obtained an Environmental Release that identified one excavation site along [redacted] to be immediately adjacent to [redacted], with the pipeline crossing underneath the creek. The Project Team took additional precautions to assess the excavation's vicinity to [redacted] and it was determined project activity, including parking and staging of equipment, would have no impact.
10. Permit Restrictions: The Project Team obtained two approved Encroachment Permits from the City of El Cajon to access the temporary launcher and receiver locations. The permits were revised to allow extended work hours during the Inspection.
11. Land Use: No identified impacts.
12. Traffic Control: The Project obtained approved traffic control plans (TCPs) from the City of El Cajon Public Works Department. TCPs included flaggers, temporary lane closures, and temporary signage for parking availability.
13. Constructability:
    a. The Project required isolation of the pipeline during the retrofits in preparation for the Inspection and throughout the Inspection.
    b. The Project required cross compression activities during the Inspection to minimize gas emissions.
14. Schedule Delay and Other Identified Risks: After completion of the [redacted], it was determined that the pipeline segment should remain isolated until receipt and

analysis of the final ILI data report. During this time, the Project Team completed temporary installations to maintain cathodic protection on the isolated segment.

Table 3: Inspection Segments

Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
49-13	860 feet	[redacted]	[redacted]	[redacted]	Yes
49-13	860 feet	[redacted]	[redacted]	[redacted]	Yes

B. Direct Examination

Following the completion of the Inspection step, three Direct Examination sites were identified for [redacted] validation and three for [redacted] validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained:

a. Permits, traffic control drawings and plans from the City of El Cajon for the execution of [redacted] Direct Examinations.

b. Permits, traffic control drawings and plans from the cities of El Cajon and Santee for the execution of [redacted] Direct Examinations.

5. Environmental: No significant environmental constraints were identified.

6. SRC/IRC: The Project Team was required to implement the following mitigation measures in addressing the Immediate Repair Condition (IRC):

   a. There was an IRC discovered at Site #2 and operating pressure was reduced until repairs were completed.

7. Other Identified Risks: During the activity of potholing at a Direct Examination location, a leak and groundwater were discovered near the water channel. As a result, the Direct Examination could not be completed, and a new [redacted] Direct Examination site was selected to meet compliance requirements. Before moving to the new site, the leak was addressed through emergency response and coordination with several departments to cap the pipeline on each side with further remediation to follow. The addition of a new Direct Examination site required additional excavations, equipment, permitting, environmental impacts and personnel.

Table 4: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-13
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15.83 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-13
Mitigation/Remediation Type	Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15.33 feet
Cost Category	Capital

Direct Examination Details	
Site	3
Examination ID	[redacted]
Pipeline	49-13
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	16.5 feet
Cost Category	O&M

Direct Examination Details	
Site	4
Examination ID	[redacted]
Pipeline	49-13
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	26 feet
Cost Category	O&M

Direct Examination Details	
Site	5
Examination ID	[redacted]
Pipeline	49-13
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	16 feet
Cost Category	O&M

Direct Examination Details	
Site	6
Examination ID	[redacted]
Pipeline	49-13
Mitigation/Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	16 feet
Cost Category	O&M

Figure 2: Supply Line 49-13 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 1.62 miles and [redacted] of 0.30 miles on Supply Line 49-13 was completed on [redacted] The ILI of 860 feet of Supply Line 49-13 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 5: Project Summary

[redacted] Total Length	1.62 miles
[redacted] Total Length	0.30 miles
ILI Total Length	860 feet
Direct Examination Completion Date	[redacted]
Final Tool Run Date	

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractors that best met the selection criteria for this project.

B. Construction Schedule

Table 6: Construction Timeline – Inspection

Construction Start Date	[redacted]
Construction Completion Date	
Inspection Due Date	

Table 7: Construction Timeline – [redacted] Direct Examination

Construction Start Date	[redacted]
Construction Completion Date	

[redacted]

Figure 3: [redacted]

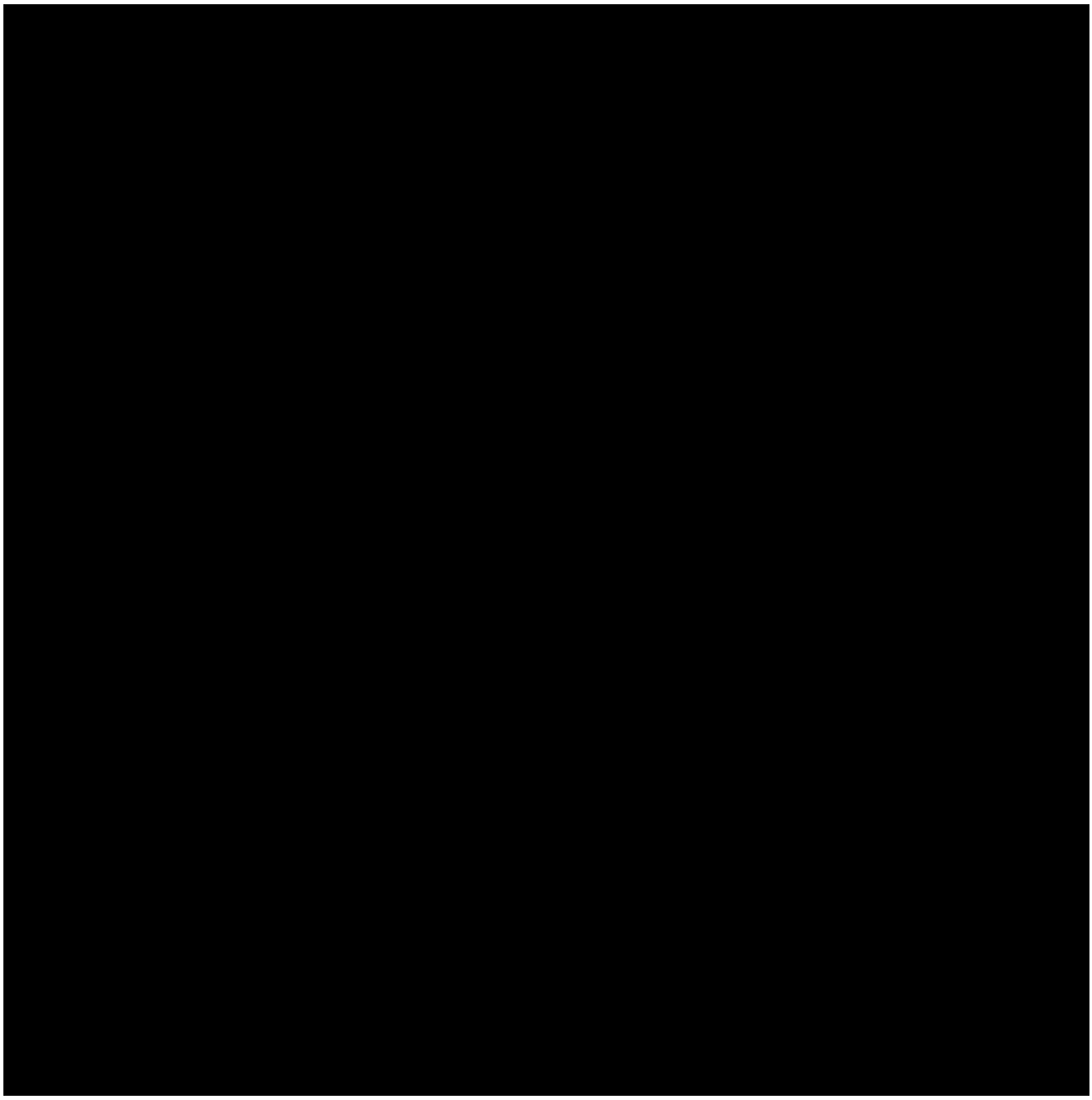


Figure 4: Direct Examination Site #1 – Coating Inspection

Figure 5: Direct Examination Site #3 - Direct Examination Location

Figure 6: Direct Examination Site #4 – Coating Inspection

Figure 7: Direct Examination Site #4 – Direct Examination Location (Extended)

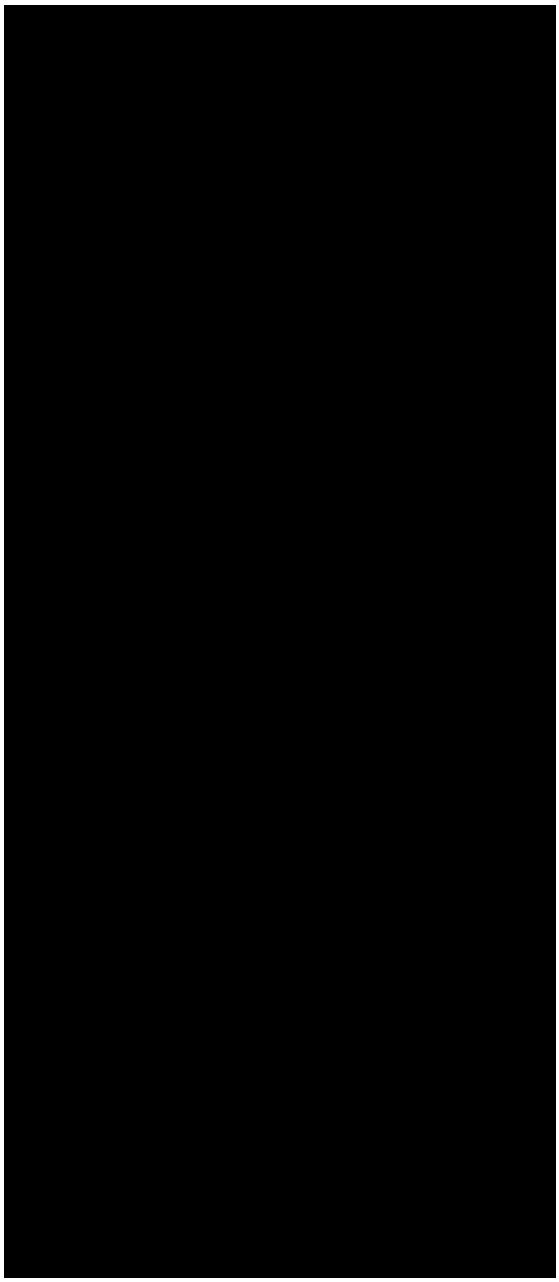


Figure 8: Direct Examination Site #5 - Excavation of Pipeline

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, transportation, disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[5]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $6,625,040.

Table 8: Actual Direct Costs[6]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	119,225	206,398	325,623
Contract Costs	305,599	4,501,970	4,807,569
Material	40,775	71,766	112,541
Other Direct Charges	79,790	933,676	1,013,466
Total Direct Costs	545,388	5,713,810	6,259,198

Table 9: Actual Indirect Costs [7]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	140,372	214,533	354,905
AFUDC	6,958	0	6,958
Property Taxes	3,979	0	3,979
Total Indirect Costs	151,309	214,533	365,842

Table 10: Total Costs[8]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	696,697	5,928,343	6,625,040

[5] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[6] Values may not add to total due to rounding.
[7] Ibid.
[8] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-13 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $6,625,040.

End of Supply Line 49-13 TIMP Project Final Workpaper

I. SUPPLY LINE 49-15 TIMP PROJECT

A. Background and Summary

Supply Line 49-15 was assessed along [redacted] in the City of El Cajon. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made to five sites, and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $1,885,293.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	49-15		
Assessment Type	[redacted]		
Location	El Cajon		
Class	[redacted]		
HCA Length	3.14 miles		
Project Length	3.21 miles		
Vintage	Multiple between [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	698,923	1,186,370	1,885,293

[redacted]

B. Maps and Images

Figure 1: Supply Line 49-15 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Supply Line 49-15 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings, and plans from the City of El Cajon, County of San Diego and Caltrans.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-15	3.14 miles	[redacted]	[redacted]
49-15	3.14 miles	[redacted]	[redacted]
49-15	3.14 miles	[redacted]	[redacted]
49-15	0.95 miles	[redacted]	[redacted]
49-15	0.95 miles	[redacted]	[redacted]
49-15	0.95 miles	[redacted]	[redacted]
49-15	0.95 miles	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Inspection step, two Direct Examination sites were identified for [redacted] validation and three for [redacted] validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team:
    a. Obtained permits, traffic control drawings and plans for the City of El Cajon for the execution of [redacted] Direct Examinations. A segment of [redacted] was under moratorium and all trench repairs had to be made with Tire Rubber Modified Asphalt Cement or similar as approved by City Engineer. The trench repair required resurfacing of additional area extending beyond the excavated dimensions per the direction of the City Engineer.
    b. Obtained permits, traffic control drawings and plans for the City of El Cajon for the execution of [redacted] Direct Examinations.
    c. Was able to use a previously granted exemption for traffic control in the County of San Diego.
    d. Obtained Caltrans permits to execute the [redacted] Direct Examination.
5. Environmental: No significant environmental constraints were identified.

6. SRC/IRC: N/A

7. Other Identified Risks: The Project Team filed and was provided a 6-month extension as [redacted] was determined to be a threat on the line near the assessment due date.

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-15
Mitigation/Remediation Type	Soft Pad
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	17 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-15
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	3
Examination ID	[redacted]
Pipeline	49-15
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	16 feet
Cost Category	O&M

Direct Examination Details	
Site	4
Examination ID	[redacted]
Pipeline	49-15
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	5
Examination ID	[redacted]
Pipeline	49-15
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	17 feet
Cost Category	O&M

Figure 2: Supply Line 49-15 Project Scope

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 3.14 miles and [redacted] of 0.95 miles on Supply Line 49-15 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	3.14 miles
[redacted] Total Length	0.95 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Excavation Location

Figure 4: Direct Examination Site #3 – Excavation of Pipeline

Figure 5: Direct Examination Site #4 – Excavation of Pipeline

Figure 6: Direct Examination Site #4 – Coating Inspection

Figure 7: Direct Examination Site #5 – Excavation of Pipeline

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[3]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $1,885,293.

Table 6: Actual Direct Costs[4,5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	66,110	68,842	134,952
Contract Costs	456,073	766,747	1,222,821
Material	11,703	0	11,703
Other Direct Charges	73,606	266,871	340,477
Total Direct Costs	607,492	1,102,461	1,709,953

Table 7: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	83,896	83,909	167,805
AFUDC	918	0	918
Property Taxes	6,617	0	6,617
Total Indirect Costs	91,431	83,909	175,340

[3] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.

[4] Company Labor of $11,509, Contract Costs of $456,073, and Other Directs of $70,583 were reclassified from Capital to O&M in June 2024. This is not shown in the table due to the timing of the adjustment occurring after December 31, 2023.

[5] Values may not add to total due to rounding.

[6] Ibid.

Table 8: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	698,923	1,186,370	1,885,293

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-15 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $1,885,293.

End of Supply Line 49-15 TIMP Project Final Workpaper

[7] Ibid.

SUPPLY LINE 49-18 & SUPPLY LINE 49-16 TIMP PROJECT

Project Overview

This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] on two pipelines, Supply Line 49-18 & Supply Line 49-16. This includes Indirect Inspection using aboveground surveys, Direct Examinations made to three sites on Supply Line 49-18 and three sites on Supply Line 49-16, and Post Assessment analysis.

The total loaded cost for the two assessments is $2,608,713.

I. SUPPLY LINE 49-18

A. Background and Summary

Supply Line 49-18 was assessed along [redacted] in San Diego to [redacted] in National City. The specific attributes of this Project are detailed below in General Project Information.

Table 1: General Project Information

Integrity Assessment Details	
Pipeline	49-18
Assessment Type	[redacted]
Location	San Diego
Class	[redacted]
HCA Length	7.63 miles
Project Length	7.76 miles
Vintage	Multiple between [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
HCA Threats	[redacted]
Indirect Inspection Completion Date	[redacted]
Direct Examination Completion Date	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Assessment Due Date	[redacted]

[redacted]

[3] See PHMSA, Gas Transmission Integrity Management: FAQs, Continual Assessment and Evaluation FAQ, No. FAQ-41 (August 2021) at 32, available at (https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2021-09/Final%20GAS%20IM%20FAQs%208-26-21.pdf). "Effective January 3, 2012, the maximum interval may be set using the specified number of calendar years."

B. Maps and Images

Figure 1: Supply Line 49-18 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Supply Line 49-18 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team:
    a. Obtained permits, traffic control drawings and plans for the cities of San Diego and National City.
    b. Approval on several moratorium waivers from the City of San Diego to perform the aboveground survey.
    c. Obtained permits, traffic control drawing and plans for Caltrans.

5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-18	7.63 miles	[redacted]	[redacted]
49-18	7.63 miles		
49-18	7.63 miles		

B. Direct Examination

Following the completion of the Indirect Inspection, three Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer impacts: No identified customer impacts.
3. Community impacts: There was a street/sidewalk blockage approved from [redacted] that closed parking and a lane along [redacted] in San Diego.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of San Diego.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: There was an Immediate Repair Condition identified on Site #1 and pressure had to be temporarily reduced, however it did not result in impacts to capacity.

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	Capital

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	22.75 feet
Cost Category	O&M

Direct Examination Details	
Site	3
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Figure 2: Supply Line 49-18 Project Scope Including Direct Examination Sites

C. Post Assessment

The Post Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 7.63 miles on Supply Line 49-18 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	7.63 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Coating Inspection

Figure 4: Direct Examination Site #1 – Band Repair

Figure 5: Direct Examination Site #2 – Excavation Location

Figure 6: Direct Examination Site #3 - Coating

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, transportation, and disposal of hydrotest water and hazardous material, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. SUPPLY LINE 49-16

A. Background and Summary

Supply Line 49-16 was assessed from [redacted] in cities Lemon Grove and National City. The specific attributes of this Project are detailed below in General Project Information.

Table 6: General Project Information

Integrity Assessment Details	
Pipeline	49-16
Assessment Type	[redacted]
Location	National City
Class	[redacted]
HCA Length	5.61 miles
Project Length	5.76 miles
Vintage	Multiple between [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
HCA Threats	[redacted]
Indirect Inspection Completion Date	[redacted]
Direct Examination Completion Date	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Assessment Due Date	[redacted]

[redacted]

B. Maps and Images

Figure 7: Supply Line 49-16 Project Scope

V. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Supply Line 49-16 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained:
    a. Permits, traffic control drawings and plans for the cities of Lemon Grove and San Diego
    b. Street/Sidewalk Blockage for lane closure, street closure, sidewalk closure, parking lane, detour, trenching, flagging, bike lane for several locations in the City of San Diego.

5. Environmental: No significant environmental constraints were identified.

Table 7: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-16	5.61 miles	[redacted]	[redacted]
49-16	5.61 miles		
49-16	5.61 miles		

B. Direct Examination

Following the completion of the Indirect Inspection, three Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer impacts: No identified customer impacts.
3. Community impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the cities of Lemon Grove and National City.
5. Environmental: An Environmental Release was obtained and the following constraint was noted.
    a. To prevent the trapping of wildlife, the Project Team was required to cover the excavations with plywood boards.
6. SRC/IRC: There was an Immediate Repair Condition identified at Site #1 and pressure had to be temporarily reduced.

Table 8: Final Direct Examination Project Details

Direct Examination Details	
Site	4
Examination ID	[redacted]
Pipeline	49-16
Mitigation/Remediation Type	Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	Capital

Direct Examination Details	
Site	5
Examination ID	[redacted]
Pipeline	49-16
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	6
Examination ID	[redacted]
Pipeline	49-16
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Figure 8: Supply Line 49-16 Project Scope Including Direct Examination Sites

C. Post Assessment

The Post Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 5.61 miles on Supply Line 49-16 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 9: Project Summary

[redacted] Total Length	5.61 miles
Direct Examination Completion Date	[redacted]

VI. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

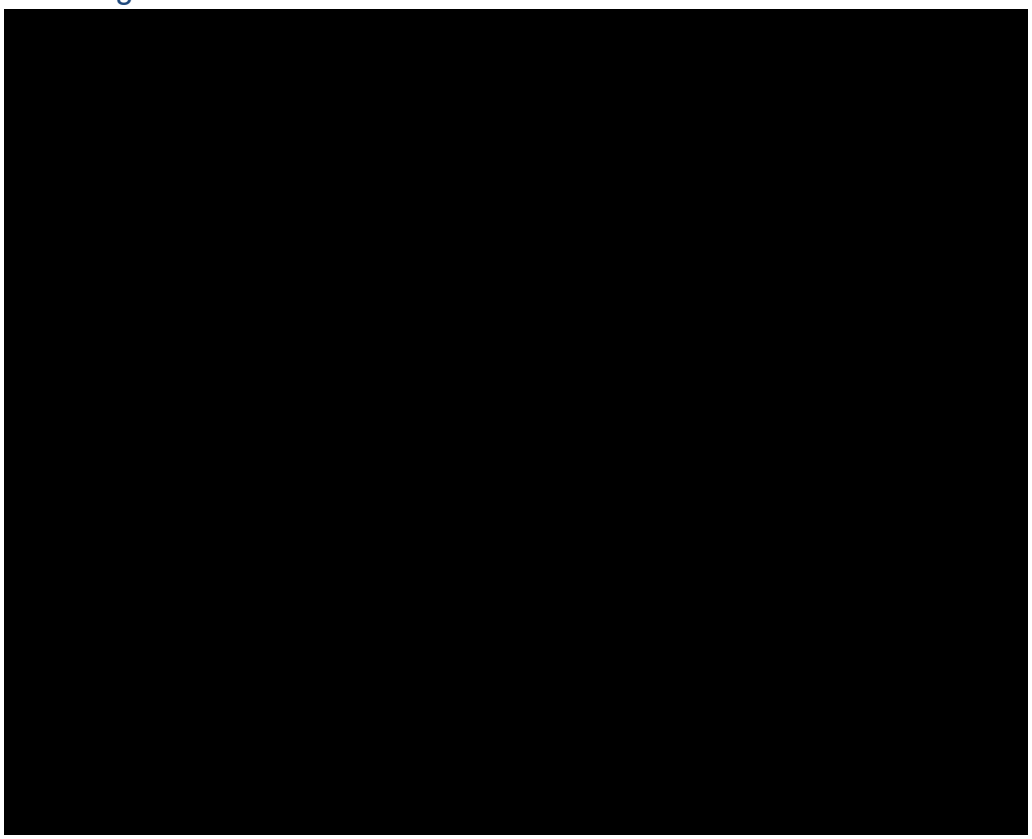
Table 10: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 9: Direct Examination Site #4 – Coating Inspection

Figure 10: Direct Examination Site #6 – Coating Inspection

Figure 11: Direct Examination Site #6 - Excavation Location



C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

VII. PROJECT COSTS

A. Actual Costs[7]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $2,608,713.

Table 11: Actual Direct Costs[8]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	23,258	236,689	259,947
Contract Costs	296,271	1,229,908	1,526,178
Material	0	0	0
Other Direct Charges	5,035	255,717	260,752
Total Direct Costs	324,563	1,722,314	2,046,877

Table 12: Actual Indirect Costs [9]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	278,730	260,117	538,847
AFUDC	12,806	0	12,806
Property Taxes	10,183	0	10,183
Total Indirect Costs	301,718	260,117	561,836

Table 13: Total Costs[10]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	626,281	1,982,431	2,608,713

[7] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[8] Values may not add to total due to rounding.
[9] Ibid.
[10] Ibid.

VIII. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-18 & Supply Line 49-16 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $2,608,713.

End of Supply Line 49-18 & Supply Line 49-16 TIMP Project Final Workpaper

I. SUPPLY LINE 49-18 TIMP PROJECT

A. Background and Summary

This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] on Supply Line 49-18 in the cities of San Diego and National City. This Workpaper represents the results of the Indirect Inspection, [redacted] Direct Examinations made to six sites and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $7,077,835.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	49-18		
Assessment Type	[redacted]		
Location	San Diego		
Class	[redacted]		
Vintage	Multiple between [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	4,233,901	2,843,934	7,077,835

[redacted]

B. Maps and Images

Figure 1: Supply Line 49-18 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

The associated Indirect Inspection involving aboveground surveys using [redacted] was presented in the accompanying Workpaper[2]. The use of a [redacted] and is included in this Workpaper.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-18	0.96 miles	[redacted]	[redacted]

[2] See Final Workpaper for Supply Line 49-18 & Supply Line 49-16 TIMP Project.

B. Direct Examination

Following the completion of the Indirect Inspection, six Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer impacts: No identified customer impacts.
3. Community impacts: The Project Team was required to implement the following:
    a. Sites #1 - 6 required lane, sidewalk, parking lane, bike lane closures and flagging.
    b. Site #6 also required a detour. Additionally, it was communicated to a nearby school that crews would be working at night.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans from the City of San Diego and Caltrans. Additional permits were obtained for the following work:
    a. Site #5 was granted a Construction Noise Permits to perform work from 10:00pm – 5:00am for a 5 week period.
    b. Site #6 was granted a Construction Noise Permits to perform work from 9:00pm – 5:00am for a 6 week period.
5. Environmental: An Environmental Release was obtained and the following constraints were noted.

a. A biological monitor was required during the excavation at Site #1 to survey for sensitive toad species that occur in the area.

b. To prevent the trapping of wildlife, the Project Team was required to cover the excavations with plywood boards.

6. SRC/IRC: The Project Team implemented the following measures in addressing the SRC/IRC:

a. There was an Immediate Repair Condition (IRC) discovered at Site #2 and operating pressure was reduced until repairs were completed.

b. There was an IRC discovered at Site #3 and operating pressure was reduced until repairs were completed.

c. Site #4 had two IRCs and operating pressure was reduced until repairs were completed.

d. Site #5 had two IRCs which required that the operating pressure be reduced. Due to the proximity to each other, both conditions were remediated with one band repair.

e. Site #6 had three IRCs and operating pressure was temporarily reduced until repairs were completed.

f. The Project Team required a rush request for cross compression activities at Site #3 to minimize methane/gas emissions along a 1.4 mile segment of the pipe.

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	46 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15.08 feet
Cost Category	Capital

Direct Examination Details	
Site	3
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Replacement and Soft Pad
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	12 feet
Inspection Length	39 feet
Cost Category	O&M

Direct Examination Details	
Site	4
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	33.65 feet
Cost Category	Capital

Direct Examination Details	
Site	5
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	41 feet
Cost Category	Capital

Direct Examination Details	
Site	6
Examination ID	[redacted]
Pipeline	49-18
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	49.75 feet
Cost Category	Capital

Figure 2: Supply Line 49-18 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the reassessment interval for the pipeline.

Final Summary

The [redacted] of 0.96 miles on Supply Line 49-18 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	0.96 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Figure 3: Direct Examination Site #1 – Direct Examination Site

Figure 4: Direct Examination Site #2 – Post Repairs

Figure 5: Direct Examination Site #3 – Post Repair

Figure 6: Direct Examination Site #3 - Direct Examination Site

Figure 7: Direct Examination Site #6 – Bare Pipeline

Figure 8: Direct Examination Site #6 – Direct Examination Site

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[3]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $7,077,835.

Table 6: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	96,025	50,778	146,803
Contract Costs	3,799,418	2,608,289	6,407,707
Material	23,975	0	23,975
Other Direct Charges	61,298	140,770	202,069
Total Direct Costs	3,980,716	2,799,838	6,780,553

Table 7: Actual Indirect Costs [5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	169,345	44,096	213,441
AFUDC	70,347	0	70,347
Property Taxes	13,493	0	13,493
Total Indirect Costs	253,185	44,096	297,281

Table 8: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	4,233,901	2,843,934	7,077,835

[3] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[4] Values may not add to total due to rounding.
[5] Ibid.
[6] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-18 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $7,077,835.

End of Supply Line 49-18 TIMP Project Final Workpaper

I. SUPPLY LINE 49-21 TIMP PROJECT

A. Background and Summary

Supply Line 49-21 was assessed [redacted] in the City of National City. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made to two sites, and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $753,819.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	49-21		
Assessment Type	[redacted]		
Location	National City		
Class	[redacted]		
HCA Length	0.87 miles		
Project Length	0.87 miles		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	42,096	711,724	753,819

B. Maps and Images

Figure 1: Supply Line 49-21 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Supply Line 49-21 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of National City.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-21	0.87 miles	[redacted]	[redacted]
49-21	0.87 miles	[redacted]	[redacted]
49-21	0.87 miles	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Indirect Inspections, two Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer impacts: No identified customer impacts.
3. Community impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans for the City of National City.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: N/A

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-21
Mitigation/ Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	14.5 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-21
Mitigation/ Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	14-feet
Cost Category	O&M

Figure 2: Supply Line 49-21 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 0.87 miles on Supply Line 49-21 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	0.87 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Coating Inspection

Figure 4: Direct Examination Site #1 – Excavation of Pipeline

Figure 5: Direct Examination Site #2 – Coating Inspection

Figure 6: Direct Examination Site #2 – Bare Pipeline

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[1]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $753,819.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	3,451	36,994	40,446
Contract Costs	3,068	415,304	418,372
Material	20,548	689	21,237
Other Direct Charges	3,468	229,700	233,168
Total Direct Costs	30,535	682,687	713,222

Table 7: Actual Indirect Costs [3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	11,057	29,037	40,093
AFUDC	61	0	61
Property Taxes	442	0	442
Total Indirect Costs	11,560	29,037	40,597

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	42,096	711,724	753,819

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-21 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $753,819.

End of Supply Line 49-21 TIMP Project Final Workpaper

I. SUPPLY LINE 49-24 TIMP PROJECT

A. Background and Summary

Supply Line 49-24 was assessed along [redacted] in the City of Chula Vista. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made to five sites, and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $1,999,007.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	49-24		
Assessment Type	[redacted], [redacted]		
Location	Chula Vista		
Class	[redacted]		
HCA Length	2.12 miles		
Project Length	2.12 miles		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	268,653	1,730,354	1,999,007

[redacted]

[3] See PHMSA, Gas Transmission Integrity Management: FAQs, Continual Assessment and Evaluation FAQ, No. FAQ-41 (August 2021) at 32, available at (https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2021-09/Final%20GAS%20IM%20FAQs%208-26-21.pdf). "Effective January 3, 2012, the maximum interval may be set using the specified number of calendar years."

B. Maps and Images

Figure 1: Supply Line 49-24 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Supply Line 49-24 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained:
    a. Permits, traffic control drawings and plans from the City of Chula Vista.
    b. Approval to perform night work at several sites throughout the Project.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-24	2.12 miles	[redacted]	[redacted]
49-24	2.12 miles	[redacted]	[redacted]
49-24	2.12 miles	[redacted]	[redacted]
49-24	541 feet	[redacted]	[redacted]
49-24	541 feet	[redacted]	[redacted]
49-24	541 feet	[redacted]	[redacted]
49-24	541 feet	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Inspection step, two Direct Examination sites were identified for [redacted] validation and three for [redacted] validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer impacts: No identified customer impacts.
3. Community impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans from the City of Chula Vista to execute the [redacted] and [redacted] Direct Examinations.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: There was an Immediate Repair Condition discovered at Site #1 and pressure was temporarily reduced until the installation of the band was completed.
7. Other Identified Risks: The pipeline and associated components at Site #3 were close to the surface and a concrete slab was installed as a protective barrier.

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-24
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	Yes
SRC/IRC	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	19.5 feet
Cost Category	Capital

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-24
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	17.75 feet
Cost Category	O&M

Direct Examination Details	
Site	3
Examination ID	[redacted]
Pipeline	49-24
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	20.17 feet
Cost Category	O&M

Direct Examination Details	
Site	4
Examination ID	[redacted]
Pipeline	49-24
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	18 feet
Cost Category	O&M

Direct Examination Details	
Site	5
Examination ID	[redacted]
Pipeline	49-24
Mitigation/Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	18.58 feet
Cost Category	O&M

Figure 2: Supply Line 49-24 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 2.12 miles and [redacted] of 541 feet on Supply Line 49-24 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	2.12 miles
[redacted] Total Length	541 feet
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Direct Examination Location

Figure 4: Direct Examination Site #2 - Direct Examination Location

Figure 5: Direct Examination Site #3 – Excavation of Pipeline

Figure 6: Direct Examination Site #4 – Excavation of Pipeline

Figure 7: Direct Examination Site #5 - Direct Examination Location

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[4]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $1,999,007.

Table 6: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	30,935	108,872	139,806
Contract Costs	170,241	1,227,785	1,398,026
Material	20,812	0	20,812
Other Direct Charges	3,036	286,843	289,879
Total Direct Costs	225,024	1,623,499	1,848,523

Table 7: Actual Indirect Costs [6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	33,388	106,854	140,242
AFUDC	8,171	0	8,171
Property Taxes	2,071	0	2,071
Total Indirect Costs	43,629	106,854	150,483

Table 8: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	268,653	1,730,354	1,999,007

[4] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[5] Values may not add to total due to rounding.
[6] Ibid.
[7] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-24 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $1,999,007.

End of Supply Line 49-24 TIMP Project Final Workpaper

I. SUPPLY LINE 49-31 TIMP PROJECT

A. Background and Summary

Supply Line 49-31 was assessed along [redacted] in the City of Poway. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made to five sites, and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $2,253,327.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	49-31		
Assessment Type	[redacted]		
Location	Poway		
Class	[redacted]		
HCA Length	1.08 miles		
Project Length	1.08 miles		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	61,617	2,191,710	2,253,327

[redacted]

B. Maps and Images

Figure 1: Supply Line 49-31 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This Workpaper outlines the planning, material procurement, and initial construction activities that occurred during the 2019 GRC cycle.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Supply Line 49-31 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained permits, traffic control drawings and plans from the City of Poway.
5. Environmental: No significant environmental constraints were identified.

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-31	1.08 miles	[redacted]	[redacted]
49-31	1.08 miles	[redacted]	[redacted]
49-31	1.08 miles	[redacted]	[redacted]
49-31	689 feet	[redacted]	[redacted]
49-31	689 feet	[redacted]	[redacted]
49-31	689 feet	[redacted]	[redacted]
49-31	689 feet	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Indirect Inspection, two Direct Examination sites were identified for [redacted] validation and three for [redacted] validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained:
   a. Permits, traffic control drawings and plans from the City of Poway for the execution of the [redacted] Direct Examinations.
   b. Approval to work extended hours at Site #1 from the City of Poway.
   c. An extension on the permit originally for [redacted] Direct Examinations to perform the [redacted] Direct Examinations from the City of Poway.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: N/A
7. Other Identified Risks:
   a. Original traffic control plans for the Direct Examinations at Site #2 and Site #3 involved the closure of [redacted] which is a throughway for the City of Poway. The Project Team adjusted the scope of the Project to keep the road open during construction, however it involved removing a raised median which

caused additional planning, permitting and work to restore the median at the end of the Project.

b. [redacted]

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-31
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	14 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-31
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	3
Examination ID	[redacted]
Pipeline	49-31
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	20 feet
Cost Category	O&M

Direct Examination Details	
Site	4
Examination ID	[redacted]
Pipeline	49-31
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15 feet
Cost Category	O&M

Direct Examination Details	
Site	5
Examination ID	[redacted]
Pipeline	49-31
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15.08 feet
Cost Category	O&M

Figure 2: Supply Line 49-31 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the re-assessment interval for the pipeline.

Final Summary

The [redacted] of 1.08 miles and [redacted] of 689 feet on Supply Line 49-31 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	1.08 miles
[redacted] Total Length	689 feet
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Direct Examination Site #1 – Excavation Location

Figure 4: Direct Examination Site #1– Direct Examination Location

Figure 5: Direct Examination Site #2 – Direct Examination Location

Figure 6: Direct Examination Site #4 – Direct Examination Location

Figure 7: Direct Examination Site #5 – Direct Examination Location

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $2,253,327.

Table 6: Actual Direct Costs[3,4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	34,601	115,616	150,217
Contract Costs	5,339	1,626,538	1,631,877
Material	0	1,457	1,457
Other Direct Charges	1,296	365,959	367,255
Total Direct Costs	41,236	2,109,570	2,150,806

Table 7: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	18,722	82,141	100,863
AFUDC	1,355	0	1,355
Property Taxes	304	0	304
Total Indirect Costs	20,381	82,141	102,521

Table 8: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	61,617	2,191,710	2,253,327

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.

[3] Company Labor of $30,731, Contract Costs of $5,339, and Other Directs of $1,296 were reclassified from Capital to O&M in May 2024 and July 2024. This is not shown in the table due to the timing of the adjustment occurring after December 31, 2023.

[4] Values may not add to total due to rounding.

[5] Ibid.

[6] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-31 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $2,253,327.

End of Supply Line 49-31 TIMP Project Final Workpaper

I. SUPPLY LINE 49-32 TIMP PROJECT

A. Background and Summary

Supply Line 49-32 was assessed along Pacific Highway in San Diego. This Workpaper describes the activities associated with a Transmission Integrity Management Program (TIMP) [redacted] that includes Indirect Inspection using aboveground surveys, Direct Examinations made to two sites, and Post-Assessment analysis. The specific attributes of this Project are detailed below in General Project Information. The total loaded cost of the Project is $646,241.

Table 1: General Project Information

Integrity Assessment Details			
Pipeline	49-32		
Assessment Type	[redacted]		
Location	San Diego		
Class	[redacted]		
HCA Length	1.17 miles		
Project Length	1.18 miles		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
HCA Threats	[redacted]		
Indirect Inspection Completion Date	[redacted]		
Direct Examination Completion Date	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Assessment Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	0	646,241	646,241

[redacted]

B. Maps and Images

Figure 1: Supply Line 49-32 Project Scope

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

As described in the Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Indirect Inspection, Direct Examination, and Post-Assessment. This workpaper outlines construction activities during the Assessment process that occurred during the Indirect Inspection(s), Direct Examination(s) and Post-Assessment.

Prior to initiating execution of the assessment, SDG&E reviewed available information and performed a detailed system analysis to verify the scope of the Project.

A. Indirect Inspection

SDG&E initiated the planning process for the Supply Line 49-32 by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate assessment methods, and select the Indirect Inspection tools.

Key factors that influenced the planning and execution of the Project Indirect Inspection(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility and established a current interruption plan.
2. Customer Impacts: No identified customer impacts.
3. Community Impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained:
    a) Permits, traffic control drawings and plans for the City of San Diego.
    b) Approval for street/sidewalk blockage for multiple locations in the City of San Diego.
5. Environmental: No significant environmental constraints were identified.

6. [redacted]

Table 2: Indirect Inspection Segments

Line	Length	Threat Type	Indirect Inspection Tool Type
49-32	1.17 miles	[redacted]	[redacted]
49-32	1.17 miles	[redacted]	[redacted]
49-32	1.17 miles	[redacted]	[redacted]
49-32	Approx. 900 feet	[redacted]	[redacted]

B. Direct Examination

Following the completion of the Indirect Inspection, two Direct Examination sites were identified for validation. For each examination location, SDG&E conducted site evaluations, communicated with stakeholders, performed potholing of the area to identify the presence of underground utilities and substructures, and prepared a project schedule that met criteria followed for examination.

Key factors that influenced the planning and execution of the Project Direct Examination(s) are as follows:

1. System Analysis: The Project Team completed a review of the pipeline system to evaluate project feasibility, and established a current interruption plan.
2. Customer impacts: No identified customer impacts.
3. Community impacts: No identified community impacts.
4. Permit Restrictions: The Project Team obtained:
    a) Permits, traffic control drawings and plans for the City of San Diego.
    b) A Noise Control Permit to allow excavation for a two week period from the hours of 9:00pm to 5:00am.
5. Environmental: No significant environmental constraints were identified.
6. SRC/IRC: N/A

Table 3: Final Direct Examination Project Details

Direct Examination Details	
Site	1
Examination ID	[redacted]
Pipeline	49-32
Mitigation/ Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15.9 feet
Cost Category	O&M

Direct Examination Details	
Site	2
Examination ID	[redacted]
Pipeline	49-32
Mitigation/ Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Replacement Length	N/A
Inspection Length	15.2 feet
Cost Category	O&M

Figure 2: Supply Line 49-32 Project Scope Including Direct Examination Sites

C. Post-Assessment

The Post-Assessment step involves evaluating and documenting the effectiveness of the inspection tools, documenting the result of the assessment and the length of pipeline assessed, communicating assessment results to the stakeholders, identifying appropriate follow up Preventive and Mitigative measures, if necessary, and establishing the reassessment interval for the pipeline.

Final Summary

The [redacted] of 1.17 miles on Supply Line 49-32 was completed on [redacted]. The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

Table 4: Project Summary

[redacted] Total Length	1.17 miles
Direct Examination Completion Date	[redacted]

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SDG&E selected the Construction Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: Indirect Inspection – Pipeline Under Overpass

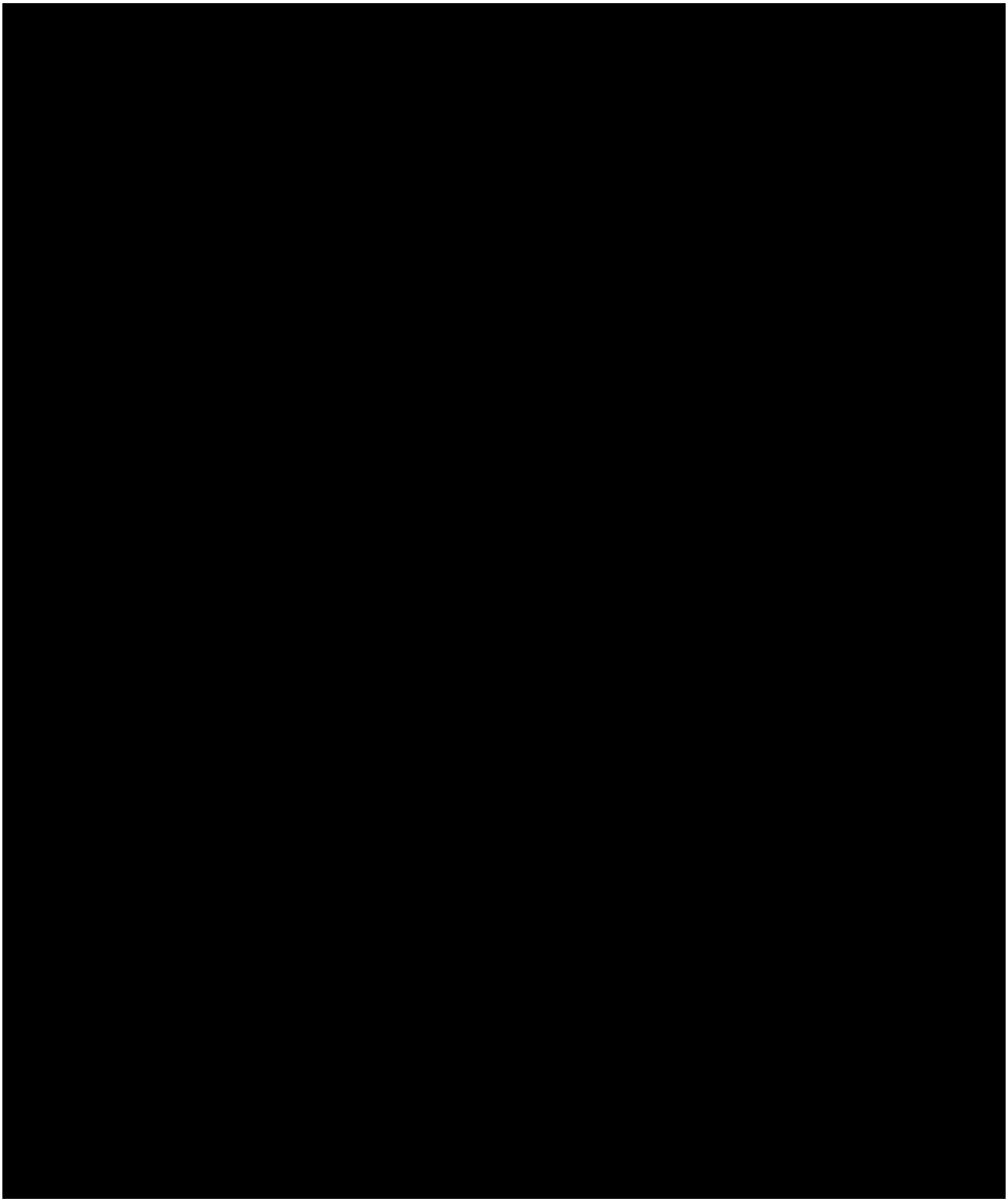


Figure 4: Direct Examination Site #1 – Excavation of Pipeline

Figure 5: Direct Examination Site #2 – Excavation of Pipeline

Figure 6: Direct Examination Site #2 – Direct Examination Location

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site, final inspection, and placement of the pipeline back into service, and site demobilization. Closeout activities include development of final drawings, finalization of a reconciliation package, and updates to company recordkeeping systems to reflect the completed scope of work.

IV. PROJECT COSTS

A. Actual Costs[2]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $646,241.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	69,763	69,763
Contract Costs	0	401,276	401,276
Material	0	48	48
Other Direct Charges	0	121,565	121,565
Total Direct Costs	0	592,653	592,653

Table 7: Actual Indirect Costs [4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	53,575	53,575
AFUDC	0	4	4
Property Taxes	0	9	9
Total Indirect Costs	0	53,588	53,588

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	646,241	646,241

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Costs that contribute to the TIMPBA revenue requirement presented in the Prepared Direct Testimony of Eric Dalton (Chapter III) consist of direct costs (including vacation and sick), overhead charges from intercompany transactions from SoCalGas to SDG&E, and SDG&E and SoCalGas vehicle utilization costs (direct costs) inadvertently categorized as overheads during workpaper production.
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SDG&E enhanced the integrity of its natural gas system by executing the Supply Line 49-32 TIMP Project. Through this Project, SDG&E implemented and managed the requirements set forth in 49 C.F.R. § 192, Subpart O, including the continual identification of threats to its pipelines, determination of the risk posed by these threats, scheduling and tracking assessments to address threats, conducting an appropriate assessment in a prescribed timeline, collecting information about the condition of the pipelines, taking actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and reporting the findings of the assessment. The total loaded cost of the Project is $646,241.

End of Supply Line 49-32 TIMP Project Final Workpaper

APPENDIX A

TIMP GLOSSARY OF ACRONYMS AND TERMS

The following list of acronyms, terms and high-level definitions are intended to accompany the TIMP workpapers and testimony[1]. These acronyms and terms describe gas operations, construction and land use terms that may not be commonly known. This is not a comprehensive or detailed glossary of utility and construction terms. It is assumed that the reader is familiar with basic utility industry and regulatory terms, and those terms and acronyms have been intentionally omitted from this list.

Acronym	Term	Definition
AGS	Aboveground Survey	Equipment and practices used to take measurements at ground surface above or near a pipeline to locate or characterize corrosion activity, coating holidays, or other anomalies. Also known as an indirect inspection.
ACA	Alternating Current Attenuation Survey	Measures the electromagnetic field attenuation emanating from the pipe induced with an AC signal. Qualitatively ranks coating quality and highlights areas with the largest holidays.
ACVG	Alternating Current Voltage Gradient	A method of measuring the change in leakage current in the soil along and around a pipeline to locate coating holidays and characterize corrosion activity. Similar to a DCVG survey except that an AC signal is applied to the target pipeline. This survey technique is reserved for determining pipe-to-casing continuity and measuring voltage gradients in electrolyte.
	Band	A protective casing that can be used to repair gas transmission pipelines. It allows for full encirclement repair over damage/defects. Also known as welded steel sleeve.
	Brush Magnetic Tool	The tool is designed to clean pipelines and prepare them for inspection. This tool combines mechanical brushing with magnetic elements to remove debris, rust, and other contaminants from the pipeline's interior surface. This tool is utilized to increase the operating efficiency of a pipeline or to facilitate inspection of the pipeline.
CP	Cathodic Protection	The reduction or elimination of corrosion by making a steel pipeline a cathode by means of an impressed direct current or attachment of a sacrificial anode.
	Class Location	An onshore area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline. Class location units are categorized as Class 1 through 4. Class 1 locations are more rural, and Class 4 locations are more urban.

[1] Prepared Direct Testimony of Travis Sera (Chapter 1, Exhibit SDG&E-01) and Prepared Direct Testimony of Elaine Weim and Travis Sera (Chapter 2, Exhibit SDG&E-02)

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Acronym	Term	Definition
CIS	Close Interval Survey	An inspection technique that includes a series of above ground pipe-to-soil potential measurements taken at predetermined increments of several feet (i.e. 2-100 feet) along the pipeline and used to provide information on the effectiveness of the cathodic protection system.
	Combination Tool	An instrumented in-line inspection tool designed to perform both geometry (deformation or caliper) inspections as well as metal loss inspections with a single tool chassis.
C	Construction Threat	Pipe girth weld, fabrication weld, wrinkle bend or buckle, stripped threads, broken pipe or coupling.
	Covered Segment	A segment of gas transmission pipeline located in a high consequence area (HCA).
	Curtailment	A temporary reduction or interruption of natural gas service to customers. This usually occurs due to system capacity limitations, maintenance, or emergencies. The process involves prioritizing certain customers and following regulation to manage the limited supply.
DCVG	Direct Current Voltage Gradient	An inspection technique that includes above ground electrical measurements taken at predetermined increments along the pipeline and used to provide information on the effectiveness of the coating system.
	Direct Examination	The direct physical inspection of the pipeline that may also include the use of nondestructive examination (NDE) techniques.
EC	External Corrosion	Corrosion occurring due to environmental conditions on the outside of the pipe. It is the natural interaction between the exterior surface of the pipe and the soil, air, or water surrounding it.
ECDA	External Corrosion Direct Assessment	A four-step process that includes pre-assessment, indirect inspection, direct examination, and post assessment, that is intended to improve safety by assessing and reducing the impact of external corrosion on pipeline integrity.
	Free-Swimming ILI Tool	An In-Line-Inspection (ILI) tool that moves through a pipeline without being tethered, it is used to inspect the pipelines condition, detecting anomalies such as corrosion, deformation, metal loss, and other defects.

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Acronym	Term	Definition
GTSR	Gas Transmission Safety Rule	GTSR is a term use to describe two sets of PHMSA regulations: • "Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments" (RIN 2137-AE72), and; • "Pipeline Safety: Safety of Gas Transmission Pipelines: Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments" (RIN 2137-AF39).
	Gauge Plate Tool	A utility pig mounted with a flexible metal plate of a specified diameter less than the minimum internal diameter of the pipeline. Pipe bore restrictions less than the plate diameter or short radius bends will permanently deflect the plate material.
	Geometry Tool	An in-line inspection tool designed to record conditions, such as dents, wrinkles, ovality, bend radius and angle by sensing the shape of the internal surface of the pipe.
GWUT	Guided wave ultrasonic testing	Inspection of pipe is typically accomplished using low frequency (usually in the range of 15-90 kHz) ultrasonic guided waves typically induced into the pipe through a collar of piezoelectric transducers; although systems utilizing electromagnetic approaches for wave generation and reception also exist. The waves propagate in several modes along the length of the pipe. Analysis of wave reflections in specific modes is used to detect and evaluate features of various types.
HCA	High Consequence Area	An area where a pipeline release could have greater consequences for health and safety or the environment.
	Hydrotest	A measure of the strength of a piece of equipment (pipe) in which the item is filled with water, sealed, and subjected to pressure. It is used to validate integrity and detect construction defects and defective materials.
IRC	Immediate Repair Conditions	Anomalies or features that might be expected to cause immediate or near-term leaks or ruptures based on their known or perceived effects on the strength of the pipeline in HCAs.
	Indirect Inspection	Also known as Aboveground Survey (AGS), Equipment and practices used to take measurements at ground surface above or near a pipeline to locate or characterize corrosion activity, coating holidays, or other anomalies.
IMU	Inertial Mapping Unit	An In-Line Inspection (ILI) tool that captures and records the inspection tool's position within the pipeline, enabling accurate tracking and evaluation of pipeline conditions.

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Acronym	Term	Definition
ILI	In-line Inspection	An inspection of a pipeline from the interior of the pipe using an inspection tool also called intelligent or smart pigging. This definition includes tethered and self-propelled inspection tools. These devices run inside the pipe and provide indications of metal loss, deformation, and other defects.
IC	Internal Corrosion	Corrosion occurring due to environmental conditions on the inside of the pipeline. In most cases, the corrosive materials are contaminants naturally contained within the transported gas such as hydrogen sulfide, carbon dioxide, other chemicals, or water.
ICDA	Internal Corrosion Direct Assessment	Is a process an operator uses to identify areas along the pipeline where fluid or other electrolyte introduced during normal operation or by an upset condition may reside, and then focuses direct examination on the locations in covered segments where internal corrosion is most likely to exist. The process identifies the potential for internal corrosion caused by microorganisms, or fluid with CO2, O2, hydrogen sulfide or other contaminants present in the gas.
LDS	Laser Deformation Sensor	A type of sensor integrated into ILI tools to detects geometric deformations in pipelines, such as dents, buckling, and ovality by using laser technology to measure the internal geometry of the pipeline.
	Launcher	A pipeline device used to insert a In-Line Inspection tool into a pressurized pipeline.
MFL	Magnetic Flux Leakage	A type of ILI technique that induces a magnetic field in a pipe wall between two poles of a magnet. Sensors record changes in the magnetic flux (flow) which can be used to evaluate metal loss. The magnetic field is induced in either the Axial or Circumferencial direction.
M	Manufacturing	Anomalies in pipe or weld metal resulting from the manufacturing process
MAOP	Maximum Allowable Operating Pressure	The highest pressure at which a piping system or segment of a piping system is qualified to operate based on design and testing, or design and operating history.
MD	Mechanical Damage	A type of metal damage in a pipe or pipe coating caused by the application of an external force. Mechanical damage can include denting, coating removal, metal removal, metal movement, cold working of the underlying metal, and residual stresses, any one of which can be detrimental.
	Receiver	A pipeline facility used for removing a pig from a pressurized pipeline. It may be referred to as trap, pig trap, or scraper trap.

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Acronym	Term	Definition
	Remediation	Is an operation or procedure that transforms an unacceptable condition to an acceptable condition by eliminating the causal factors of a defect. Remediation may include repairs, pressure reductions, or other actions intended to preclude a defect from failing.
	Retrofit	Retrofits are typically carried out to extend the lifespan of the pipeline, improve safety and reliability, reduce environmental impact, and ensure compliance with current standards and regulations.
ROW	Right of Way	A strip of land on which pipelines, railroads, power lines, and other similar facilities are constructed which allows the operator to perform operation and maintenance activities of the asset.
SRC	Safety Related Condition	Anomalies or features that might be expected to cause immediate or near-term leaks or ruptures based on their known or perceived effects on the strength of the pipeline in non-HCAs.
	Segment	A continuous length of pipe that starts and ends at a known demarcation point such as a change in pipe characteristics, pressure limiting or regulating station, or other practical divisions. A section of pipe can be made up of multiple segments.
	Soft Pad	Flexible grinding disks used with power grinders to precisely remove defects like arc burns, grooves, and scratches on pipes while maintaining acceptable wall thickness
	Soil Resistivity	Measures the resistivity of the soil in Ohm-cm. Can be used to approximate potential corrosivity along the pipeline, or correlate differences in current distribution.
SMYS	Specified Minimum Yield Strength	Means specified minimum yield strength, expressed in pounds per square inch, is: (a). For steel pipe manufactured in accordance with a listed specification, the yield strength specified as a minimum in that specification; or (b). For steel pipe manufactured in accordance with an unknown or unlisted specification, the yield strength determined in accordance with § 192.107(b).
SCC	Stress Corrosion Cracking	Is a form of environmental attack of the metal involving an interaction of a local corrosive environment and tensile stresses in the metal resulting in formation and growth of cracks.
SCCDA	Stress Corrosion Cracking Direct Assessment	A process to assess a covered pipe segment for the presence of SCC primarily by systematically gathering and analyzing excavation data for pipe having similar operational characteristics and residing in a similar physical environment [§192.927].

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Acronym	Term	Definition
	Unpiggable	A condition where a smart tool or a pipeline inspection gauge that traverses through the pipeline as part of an In-Line Inspection that cannot be used.
WROF	Weather Related/Outside Force	The Weather Related and Outside Force threat has localized susceptibility. WROF evaluation considers locations of extreme loading where pipe may be susceptible to earthquakes and seismicity, geology, soil stability, landslides, ground subsidence, extreme surface loading, flooding, lightning strikes, and frost.

BEFORE THE PUBLIC UTILITIES
COMMISSION OF THE STATE OF CALIFORNIA

DECLARATION OF ELAINE WEIM REGARDING CONFIDENTIALITY OF CERTAIN DOCUMENTS PURSUANT TO D.21-09-020

I, Elaine Weim, do declare as follows:

1. I am the Manager of Pipeline Integrity for San Diego Gas & Electric (SDG&E). I have been delegated authority to sign this declaration by Tashonda Taylor, Vice President of Gas Operations for SDG&E. I have reviewed the confidential information included within SDGE-02-WP-A Errata Workpapers Supporting the Prepared Direct Testimony of Elaine Weim and Travis T. Sera (Technical – Project Execution and Management) ("TIMP Workpapers"). I am personally familiar with the facts and representations in this Declaration and, if called upon to testify, I could and would testify to the following based upon my personal knowledge and/or information and belief.

2. I hereby provide this Declaration in accordance with Decision ("D.") 21-09-020 and General Order ("GO") 66-D to demonstrate that the confidential information ("Protected Information") provided in the TIMP Workpapers is within the scope of data protected as confidential under applicable law.

3. In accordance with the legal authority described in Attachment A, the Protected Information should be protected from public disclosure.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 28th day of July, 2025 at San Diego, California.

Elaine Weim
Manager of Pipeline Integrity
San Diego Gas & Electric Company

ATTACHMENT A

SDG&E Request for Confidentiality on the following Protected Information in its Transmission Integrity Management Program (TIMP) Workpapers

Location of Data	Applicable Confidentiality Provisions	Basis for Confidentiality
Clean and redlined versions of "SDGE-02-WP-A; Errata Workpapers Supporting the Prepared Direct Testimony of Elain Weim and Travis T. Sera (Technical – Project Execution and Management)" has been marked/highlighted as confidential pursuant to PUC Section 583, GO 66-D, and D.21-09-020. Confidential Information: Critical Energy Infrastructure Information (CEII), Pipe attributes (SMYS, MAOP/MOP, Diameter, Seam type, Install date, Class location, HCA segment information, Assessment method, Assessment date, Coating type, Construction dates/schedules, Inspection results), Threat type, Specific locational information and system pipeline map.	CPRA Exemption, Gov't Code § 7927.705 ("Records, the disclosure of which is exempted or prohibited pursuant to federal or state law") • Cal. Civil Code §§ 3426 *et seq.* (Uniform Trade Secrets Act) • *TMX Funding Inc. v. Impero Technologies, Inc.*, 2010 WL 2745484 at *4 (N.D. Cal. 2010) (defining trade secret in an injunction to include "business plans and strategies") • *O2 Micro Int'l Ltd. v. Monolithic Power Sys., Inc.*, 420 F. Supp. 2d 1070, 1089–1090 (N.D. Cal. 2006) ("It does not matter if a portion of the trade secret is generally known, or even that every individual portion of the trade secret is generally known, so long as the combination of all such information is not generally known.") • 18 CFR § 388.113(c) (defining CEII) • FERC Order Nos. 630, 643, 649, 662, 683, and 702 (defining CEII) • FERC Order 833 (including amendments to the CEII regulations, required by The FAST Act) • Critical Energy Infrastructure Information, 68 Fed. Reg. 9857, 9862 (Dep't of Energy Mar. 3, 2003) (final rule) (listing what **gas** information qualifies as CEII) • FERC's Guidelines for Filing Critical Energy/Electric	It is SDG&E's practice to designate certain data as confidential because this data is similar to data protected by CEII regulations and, if made publicly available, could potentially present a risk to public and pipeline safety. Engineering design values (i.e., Pipe attributes and production data) for existing critical infrastructure could be used to determine the criticality of a gas facility and identify vulnerabilities of the gas delivery network. Because of the critical nature of these attributes, they have been identified by PHMSA to be restricted attributes available only to government officials. Inspection results (including assessment results/dates) are forms of production data that is protected and includes details related to the transmission and distribution of energy. This information if released to the public can be used to predict repair schedules and availability of segments of the transportation network. It may affect market pricing for gas transportation and delivery and lead to speculation in the energy markets that may be detrimental to consumers. This information could also be used to identify vulnerabilities of the gas network. It is SDG&E's practice to designate portions of their threat analysis, such as threat types, as confidential because this data is considered proprietary, not currently published by PHMSA, and, if made publicly available, could potentially present a risk to public and

	Infrastructure Information, (Feb. 21, 2017), *available at* https://www.ferc.gov/sites/default/files/2020-04/CEII-Filing-guidelines.pdf o Exhibits G, G-1, G-II of pipeline certificate applications. 18 CFR § 157.14 o Exhibit V of abandonment applications. 18 CFR § 157.18 o FERC Form 567. 18 CFR § 260.8 • CPUC Res. L-436, at 8 (stating CPUC will "refrain from making available to the public detailed maps and schematic diagrams showing the location of specific utility regulator stations, valves, and similar facilities") • Cal. Pub. Util. Code § 364(d) ("The commission may, consistent with other provisions of law, withhold from the public information generated or obtained pursuant to this section that it deems would pose a security threat to the public if disclosed.") • The Pipeline and Hazardous Materials Safety Administration's (PHMSA) guidelines consider the data to be restricted pipeline information. PHMSA Guidelines, 81 Fed. Reg. 40757, 40764 (June 22, 2016). • PHMSA also issued an advisory bulletin on December 9, 2016: ABD-2016-0137; Pipeline Safety: Safeguarding and Securing Pipelines from Unauthorized Access detailing	pipeline safety, as well as a potential financial loss of future revenue as these documents could be monetized. Pipeline locations (including street names) and maps at a scale of 1 inch to 24,000 feet scale or less are identified as confidential because the data would provide sufficient information to be used by a third party to excavate or access above ground facilities without notifying the Utility through the local Underground Service Alert (USA) or could be used to identify locations for illegal tapping or other acts that could impact the safety of residents living near the natural gas pipeline or gas facility.

	the need for operators to protect their gas systems • *See* Administrative Law Judge's Ruling Granting Applicant's Motion for Leave to Submit Confidential Materials Under Seal as to Appendix K Geographic Information System (GIS) Data at 2, Application 16-07-016 (December 1, 2016); Administrative Law Judge's Ruling Granting Applicant's Motion to File Specified Documents Under Seal, Application 16-04-022 (June 2, 2016) • *See Mr. Doug Hall*, 114 FERC ¶ 62194, 2006 WL 463906 (Feb. 27, 2006) (letter from the FERC Office of External Affairs to an applicant seeking to review information containing CEII, explaining that "precise dam coordinates which could be used to target the dam. In addition, providing coordinate data for all facilities in a specific geographic region increases the vulnerability of those facilities to attack . . . this information could be used to compromise the dams, placing lives at risk.") • *Ms. Alison Arnold*, 108 FERC ¶ 62287, 64538 (Sept. 30, 2004) (ruling on a request to the U.S. Department of Interior for a copy of GIS data regarding hydropower projects located in the State of Washington that "contains critical energy infrastructure information (CEII)") • *N. Dakota Pipe Line Co., LLC 24-Inch Crude Oil Pipeline - Sandpiper Project Siting Application*, GE-13-193, 2014	

	WL 2567685, at *1 (May 13, 2014) (deeming confidential all the information in "a sealed envelope containing a CD and labeled 'Critical Energy Infrastructure Information.' The information also includes GIS mapping data, GIS data, and two plots of Souris River Crossing relating to the location of the Sandpiper Pipeline.") CPRA Exemption, Gov't Code § 7929.205 (Critical Infrastructure Information)	