BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Application of Southern California Gas Company (U 902 G) to Recover Costs Recorded in the Transmission Integrity Management Program Balancing Account from January 1, 2019 to December 31, 2023.	A.25-04-020 (Filed April 30, 2025)

AMENDED WORKPAPERS SUPPORTING THE PREPARED DIRECT TESTIMONY OF JORDAN A. ZEOLI, FIDEL GALVAN, AND TRAVIS T. SERA
(Technical – Project Execution and Management, Volume I of VII)

[PUBLIC VERSION]

Respectfully submitted on behalf of the SoCalGas,

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SCG-02-WP-A

Amended Workpapers Supporting the Prepared Direct Testimony of

Jordan A. Zeoli, Fidel Galvan, and Travis T. Sera

(Technical – Project Execution and Management, Volume I of VII; Public Version)

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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 four sections as follows:

- Section II comprises of **SoCalGas's In-Line Inspection (ILI) TIMP Workpaper Structure.** This section describes the workpaper format for the 108 ILI TIMP Projects.
- Section III comprises of **SoCalGas's Retrofit TIMP Workpaper Structure.** This section describes the workpaper format for the 3 Retrofit TIMP Projects.
- Section IV comprises of **SoCalGas's Direct Assessment TIMP Workpaper Structure.** This section describes the workpaper format for the 32 Direct Assessment TIMP Projects.
- Appendix A contains the **SoCalGas'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, Retrofit Projects and Direct Assessment projects that primarily incurred costs from January 1, 2019 and December 31, 2023.
[2] Prepared Direct Testimony of Travis Sera (Chapter I) and Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, and Travis Sera (Chapter II)

II. SOCALGAS'S TIMP IN-LINE INSPECTION (ILI) WORKPAPER STRUCTURE

The project workpapers listed in Table 1 provide a detailed review of 108 ILI projects completed as part of the TIMP.[3] Project costs incurred during the Test Year 2019 General Rate Case (GRC) cycle from January 1, 2019, through December 31, 2023, are included in this Application to align with the Prepared Direct Testimony of Travis Sera (Chapter I) and Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 41-6903 [redacted]	0	1,124,300	1,124,300
Line 115 [redacted]	1,620,419	4,067,621	5,688,040
Line 127 and Line 1004 Phase 1 [redacted]	3,685,318	3,486,040	7,171,358
Line 160 and Line 1005 [redacted]	5,720,671	8,425,040	14,145,711
Line 160 and Line 1005 Phase 2 [redacted]	83,147	1,087,498	1,170,645
Line 225 Phase 1 [redacted]	5,067,805	3,899,415	8,967,220
Line 225 Phase 2 [redacted]	0	2,399,184	2,399,184
Line 225 Phase 3 [redacted]	15,295,577	5,414,399	20,709,976
Line 235 East Phase 1 [redacted]	2,995,526	1,082,966	4,078,492
Line 235 East Phase 2 [redacted]	3,629,596	4,293,301	7,922,897
Line 235 West Phase 1 [redacted]	53,828,255	2,010,801	55,839,056
Line 235 West Phase 2 [redacted]	3,730,427	4,984,687	8,715,114
Line 247 [redacted]	6,735,543	15,068,702	21,804,245
Line 293 [redacted]	10,330,924	2,256,498	12,587,422
Line 324 Phase 1 [redacted]	0	5,181,358	5,181,358
Line 324 Phase 2 [redacted]	2,730,262	955,518	3,685,780
Line 325 Phase 1 [redacted]	1,600	3,221,410	3,223,010
Line 325 Phase 2 [redacted]	2,802,480	3,444,026	6,246,506
Line 335 [redacted]	2,422,760	657,891	3,080,651
Line 404 Phase 1 [redacted]	3,116,765	3,469,783	6,586,547
Line 404 Phase 2 [redacted]	7,991,812	0	7,991,812
Line 404 Phase 2 [redacted]	9,298,666	5,079,220	14,377,887

[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 31st, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).

Project Name	Capital Costs	O&M Costs	Total Cost
Line 404 Phase 3 [redacted]	6,465,167	2,757,169	9,222,337
Line 406 Phase 1 [redacted]	30,488	3,754,254	3,784,742
Line 408 [redacted]	899,477	2,940,621	3,840,098
Line 765 Phase 1 [redacted]	154,279	3,378,358	3,532,637
Line 765 Phase 2 [redacted]	0	4,717,684	4,717,684
Line 765 Phase 3 [redacted]	0	4,238,274	4,238,274
Line 765 Phase 4 [redacted]	0	3,265,107	3,265,107
Line 767 [redacted]	1,028,206	1,483,615	2,511,821
Line 800 [redacted]	5,036,135	7,582,941	12,619,076
Line 1004 Phase 2 [redacted]	220,870	4,083,120	4,303,991
Line 1010 [redacted]	0	3,186,680	3,186,680
Line 1013 and Line 1015 [redacted]	0	2,293,528	2,293,528
Line 1014 and Line 2006 [redacted]	3,159,304	5,871,090	9,030,394
Line 1016 [redacted]	0	2,474,541	2,474,541
Line 1017 Phase 1 [redacted]	2,881,714	2,966,214	5,847,928
Line 1018 [redacted]	412,609	2,094,430	2,507,039
Line 1019 [redacted]	0	2,909,191	2,909,191
Line 1020 [redacted]	89,477	2,633,372	2,722,849
Line 1024 and Line 1176 [redacted]	2,002,566	4,325,175	6,327,741
Line 1027 [redacted]	4,916,653	2,210,864	7,127,518
Line 1028 [redacted]	2,372,345	2,167,986	4,540,330
Line 1167 [redacted]	1,332,597	765,196	2,097,793
Line 1172 and Line 1177 [redacted]	0	5,871,434	5,871,434
Line 1173 and Line 1241 [redacted]	0	3,162,830	3,162,830
Line 1175 [redacted]	1,859,780	520,348	2,380,128
Line 1180 [redacted]	0	3,746,166	3,746,166
Line 1181 [redacted]	0	3,480,699	3,480,699
Line 1185 and Line 4002 Phase 1 [redacted]	14,731	4,100,270	4,115,001
Line 1192 and Line 407 [redacted]	2,401,039	7,428,375	9,829,414
Line 1202 [redacted]	536,925	386,508	923,433
Line 1207	4,143,338	274,266	4,417,604
Line 1229 [redacted]	958,406	3,280,107	4,238,513
Line 2000 East Phase 3 [redacted]	1,269,432	5,205,176	6,474,608
Line 2000 Phase 1 [redacted]	2,255,972	1,081,653	3,337,625
Line 2000 Phase 2 [redacted]	9,365,500	3,871,053	13,236,553
Line 2000 Phase 3 [redacted]	1,971,108	416,890	2,387,999
Line 2000 Phase 6 [redacted]	3,117,257	0	3,117,257
Line 2000 Phase 6 [redacted]	2,221,089	2,851,934	5,073,024

Project Name	Capital Costs	O&M Costs	Total Cost
Line 2000 Phases 4 and 5 [redacted]	2,879,416	1,245,435	4,124,851
Line 2000 West Phase 3 [redacted]	3,090,932	2,938,855	6,029,788
Line 2001 East, Line 1030, and Line 2001 West [redacted]	8,044,073	5,051,570	13,095,643
Line 2001 West Phase 3 [redacted]	4,374,624	4,786,225	9,160,849
Line 2001 West, Line 2002, Line 2003 [redacted]	1,565,554	1,363,497	2,929,051
Line 2003 [redacted]	7,705,986	357,774	8,063,760
Line 2051 [redacted]	219,462	3,238,741	3,458,204
Line 2051 [redacted]	1,390,855	1,058,305	2,449,160
Line 3000 East Phase 1 [redacted]	1,287,326	1,051,378	2,338,704
Line 3000 East Phase 2A [redacted]	15,235,823	2,859,604	18,095,427
Line 3000 East Phase 2B [redacted]	4,761,419	1,098,397	5,859,816
Line 3000 [redacted]	652,797	2,158,679	2,811,476
Line 3001 [redacted]	0	5,649,851	5,649,851
Line 3002 [redacted]	1,646,341	2,576,723	4,223,063
Line 3003 and Line 1205 [redacted]	1,244,617	2,787,249	4,031,866
Line 3007 and Line 1170 [redacted]	4,711,449	38,075	4,749,524
Line 3008 [redacted]	3,904,887	5,094,864	8,999,750
Line 4000 Phase 1 [redacted]	60,399,326	2,778,016	63,177,343
Line 4000 Phase 2 [redacted]	597,329	2,838,631	3,435,959
Line 4000 Phase 3 [redacted]	963,040	4,370,766	5,333,806
Line 4002 Phase 2 [redacted]	2,502,676	1,503,626	4,006,301
Line 5000 Phase 1 [redacted]	0	970,307	970,307
Line 5000 Phase 2 [redacted]	1,872,543	0	1,872,543
Line 5000 Phase 2 [redacted]	23,963	1,545,663	1,569,626
Line 5000 Phase 3 [redacted]	1,303,437	1,056,641	2,360,078
Line 5000 Phase 3 [redacted]	345,045	1,057,683	1,402,728
Line 5000 Phase 4 [redacted]	867,126	1,642,813	2,509,939
Line 6904 [redacted]	713,118	1,089,586	1,802,703
Line 6905 [redacted]	0	1,515,592	1,515,592
Line 6905 Phase 1 [redacted]	0	1,368,932	1,368,932
Line 6906 and Line 6906X01 [redacted]	423,265	1,092,867	1,516,133
Line 6914 [redacted]	909,456	723,369	1,632,825
Line 6916 Phase 2 [redacted]	8,335,774	0	8,335,774
Line 6916 Phase 2 [redacted]	29,190,035	11,048,877	40,238,912
Line 7000 Phase 1 [redacted]	7,305,203	4,647,324	11,952,527
Line 7000 Phase 2 [redacted]	0	3,471,107	3,471,107
Line 7039 [redacted]	0	2,027,889	2,027,889
Line 7200 [redacted]	2,333,268	1,345,817	3,679,085
Line 8109 Phase 2 [redacted]	1,236,395	0	1,236,395
Supply Line 30-58 [redacted]	92,841	3,411,812	3,504,653

Project Name	Capital Costs	O&M Costs	Total Cost
Supply Line 31-09 [redacted]	1,689,211	2,894,805	4,584,016
Supply Line 35-1179 [redacted]	1,210,022	2,531,304	3,741,326
Supply Line 35-20 [redacted]	394,039	2,428,431	2,822,470
Supply Line 36-37 [redacted]	3,807,322	2,996,404	6,803,726
Supply Line 36-1007 [redacted]	35,273,697	5,067,480	40,341,177
Supply Line 41-6505 [redacted]	1,040,209	1,363,226	2,403,434
Supply Line 45-163	5,434,735	0	5,434,735
Supply Line 45-1106 [redacted]	0	1,171,380	1,171,380

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 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:

- <u>Site Description</u> – 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 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.

5. **Engineering, Design, and Constructability Factors – Station Retrofits**

Some of the ILI projects may include this section to describe the activities related to a permanent launcher(s) and/or receiver(s) installation. Details related to this section is further described in Section III of this Workpaper Introduction.

C. Construction

1. Construction Contractor Selection

This section describes SoCalGas'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:

- <u>Company Labor</u> – Labor costs for SoCalGas 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 SoCalGas to complete the project, such as piping, valves, fittings, and other miscellaneous materials.
- Other Direct Charges – Other direct costs not included in Company Labor, Contract Costs, or Material (e.g. permits and government fees, and 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 SoCalGas earns for funds used during construction for capital projects (AFUDC) and Property Tax for construction work in progress (CWIP) for capital projects.

III. SOCALGAS'S TIMP RETROFIT WORKPAPER STRUCTURE

The project workpapers listed in Table 2 provide a detailed review of 3 Retrofit projects completed as part of the TIMP. Project costs incurred during the Test Year 2019 General Rate Case (GRC) cycle from January 1, 2019 through December 31, 2023, are included in this Application to align with the Prepared Direct Testimony of Travis Sera (Chapter I) and Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan and Travis Sera (Chapter II).

The Table of TIMP Retrofit 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 Retrofit Projects[5]

Project Name	Capital Costs	O&M Costs	Total Cost
[redacted] Retrofit	16,920,114	0	16,920,114
[redacted] Retrofit	19,678,852	24,335	19,703,187
[redacted] Retrofit	9,764,175	0	9,764,175

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 Retrofit(s). The summary is accompanied with *Table 1: General 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 construction activities that occurred during the station retrofit.

[5] These are the total project costs incurred between January 1, 2019 and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).

2. Engineering, Design and Constructability Factors – Retrofit

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 detailed system analysis to verify the scope of the project.

Key factors that influenced the engineering and design for the Retrofit may include:

- Site Description – describes the overall site location and configuration of the permanent launcher(s) and/or receiver(s). A brief description of the property is provided and describes how the facility was integrated with the existing pipeline system.
- 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. Additional construction activities described may include an outline of construction phases executed, engineering and structural design requirements and detail pipeline equipment installations.
- 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 SoCalGas's utilization of Construction Contractor(s) that best met the criteria for the Project.

2. Construction Schedule

This section consists of a *Construction Timeline – Station Retrofit Table* depicting the construction start date and completion date for the project. Images are included to provide insight into the various phases and field conditions of the construction 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. 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 SoCalGas 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 SoCalGas 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, and 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 SoCalGas earns for funds used during construction for capital projects (AFUDC) and Property Tax for construction work in progress (CWIP) for capital projects.

IV. SOCALGAS'S TIMP DIRECT ASSESSMENT WORKPAPER STRUCTURE

The project workpapers listed in Table 3 provide a detailed review of 32 Direct Assessment (DA) projects completed as part of the TIMP, which include External Corrosion Direct Assessments (ECDA) and Stress Corrosion Cracking Direct Assessments (SCCDA).[6] Project costs incurred during the Test Year 2019 General Rate Case (GRC) cycle from January 1, 2019, through December 31, 2023, are included in this Application to align with the Prepared Direct Testimony of Travis Sera (Chapter I) and Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 3 –TIMP Direct Assessment Projects[7]

Project Name	Capital Costs	O&M Costs	Total Cost
Line 85 South	0	753,577	753,577
Line 324	0	921,200	921,200
Line 765-8.24-BO, Line 765-8.24-BR, Supply Line 44-717 & Supply Line 44-717BR1	0	1,250,221	1,250,221
Line 1011	674,121	1,272,999	1,947,120
Line 2001 BO7, Line 2001 BO8, Supply Line 44-137 & Supply Line 44-137A	0	454,376	454,376
Line 6908	303,111	190,930	494,041
Line 7025	0	458,030	458,030
Line 8032	294,104	930,785	1,224,889
Line 8045 & Line 8045 LT1	0	1,982,221	1,982,221
Supply Line 30-72	0	303,505	303,505
Supply Line 31-09	0	1,505,825	1,505,825
Supply Line 32-21	3,387,487	580,521	3,968,008
Supply Line 32-24, Supply Line 32-25 & Supply Line 44-725	0	1,877,141	1,877,141
Supply Line 32-60	0	1,696,309	1,696,309
Supply Line 35-20-A & Supply Line 35-20-A1	0	626,778	626,778
Supply Line 35-22	466,326	550,136	1,016,462
Supply Line 36-9-06 & Supply Line 36-9-06A	0	2,516,195	2,516,195
Supply Line 36-9-09 North	0	1,364,829	1,364,829
Supply Line 36-9-21	539,211	2,668,933	3,208,143
Supply Line 36-37	0	2,664,427	2,664,427

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

[7] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).

Supply Line 38-501	0	3,243,764	3,243,764
Supply Line 38-504	78,299	2,707,491	2,785,790
Supply Line 41-05	0	754,805	754,805
Supply Line 41-12	0	334,860	334,860
Supply Line 41-17	259	1,030,420	1,030,679
Supply Line 41-17A	0	1,512,242	1,512,242
Supply Line 41-19	0	928,850	928,850
Supply Line 41-6001-2	1,893,513	1,501,322	3,394,834
Supply Line 44-307	3,922,030	6,354,969	10,276,999
Supply Line 44-800 & Supply Line 44-800A	0	428,496	428,496
Supply Line 44-1008	0	2,388,911	2,388,911
Supply Line 45-163	1,246,800	535,452	1,782,252

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*, 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.
- Land Use – describes the property and easement requirements needed for work areas, laydown yards, and accesses to project locations.
- 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 SoCalGas'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 Table* 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 SoCalGas 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 SoCalGas 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, and 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 SoCalGas earns for funds used during construction for capital projects (AFUDC) and Property Tax for construction work in progress (CWIP) for capital projects.

I. LINE 41-6903 [redacted] TIMP PROJECT

A. Background and Summary

Line 41-6903 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 14.27 miles from [redacted] through agricultural land. The Project also assessed one short segment of [redacted] pipeline associated with Line 41-6903 using the [redacted] assessment method. The pipeline is routed across Class 1, 2, and 3 locations with 0.53 miles within High Consequence Area(s) (HCAs) and 13.74 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 activities were located in the Cities of El Centro, Holtville, and Calexico. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $1,124,300.

SoCalGas

Final Workpaper for Line 41-6903 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	41-6903
Segment	[redacted]
Inspection Type	[redacted] ILI Tools
Location	El Centro and Calexico
Class	1, 2, 3
HCA Length	0.53 miles
Vintage	[redacted]
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	[redacted]
SMYS *(confidential)*	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	
Line	41-6903
Site	1
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	None
Within HCA	Yes
SRC/IRC	No
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	[redacted]
SMYS *(confidential)*	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]

SoCalGas

Final Workpaper for Line 41-6903 [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	None		
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	$0	1,124,300	1,124,300

Final Workpaper for Line 41-6903 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 41-6903 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the prepared direct testimony of Jordan Zeoli, Fidel Galvan, 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 Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 41-6903 [redacted] for Integrity Assessment using ILI.
   a. ILI from the permanent launcher site at the intersection of [redacted] to the permanent receiver site at [redacted].
2. Direct Examination - Engineering, Design, and Constructability: Following the completion of the Integrity Assessment using ILI, three 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 did not require any repairs.
   b. Direct Examination Site #2 required soft pad repairs.
   c. Direct Examination Site #3 did not require any 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 consists of this Workpaper includes an 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
41-6903	14.27 miles	[redacted]	[redacted]	[redacted]	No
41-6903	14.27 miles	[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
41-6903	1	Yes	No	19 ft	None	N/A	O&M
41-6903	2	No	No	25 ft	Soft Pad	N/A	O&M
41-6903	3	No	No	50 ft	None	N/A	O&M

B. Engineering, Design, and Planning Factors – Inspection

SoCalGas initiated the planning process for the Line 41-6903 [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:

SoCalGas

Final Workpaper for Line 41-6903 [redacted] TIMP Project

1. Site Description: The launcher site is at the intersection of [redacted]. The receiver site is at the [redacted]. The launcher and receiver sites are owned and operated by SoCalGas.
2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted].
4. Long Seam Type:
   [redacted]
5. Inspection 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 concluded that reduced flow was necessary during the ILI, but temporary bypass would be required for a potential shut-in.
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 did not identify any notable environmental concerns at the ILI sites.
11. Permit Restrictions: The Project Team obtained an encroachment permit from the City of El Centro for work at the launcher site.
12. Land Use: No identified impacts.
13. Traffic Control: The Project required traffic control at the launcher site to allow for [redacted] of a tee.

14. Constructability:
    a. The Project Team identified that a temporary filter separator was necessary for the ILI.
    b. The Project team identified that compressed natural gas (CNG) would be required to isolate a distribution tap feeding a regulator station.

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

Continuing the planning process for Line 41-6903 [redacted] TIMP Project, SoCalGas 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 was one [redacted] Site selected to assess a pipeline segment that could not accommodate an ILI tool within the Line 41-6903 [redacted] TIMP Project.
        i. Direct Examination Site #1 did not require any repairs.
    b. There were two Direct Examination Sites selected for validation of the ILI within the Line 41-6903 [redacted] TIMP Project.
        i. Direct Examination Site #2 required soft pad repairs.
        ii. Direct Examination Site #3 did not require any repairs.
2. SRC and/or 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 pipeline did not need to be shut-in.
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 did not identify any notable environmental concerns at the Direct Examination sites.
8. Permit Restrictions: The Project Team obtained an Encroachment permit from Imperial County for work at Direct Examination Sites #2 and #3.
9. Land Use: No identified impacts.
10. Traffic Control: The Project Team required traffic control at Direct Examination sites #2 and #3.

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, SoCalGas 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	[redacted]	
Inspection Due Date	[redacted]	

Table 5: Construction Timeline - Direct Examination

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

Final Workpaper for Line 41-6903 [redacted] TIMP Project

Figure 2: Direct Examination Site #2 Overview

[redacted]

Figure 3: Direct Examination Site #2

[redacted]

Figure 4: Direct Examination Site #3

[redacted]

Figure 5: Direct Examination Site #3

[redacted]

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

SoCalGas exercised due diligence in the design, planning, and construction activities for this project to minimize or avoid costs when prudent to do so. 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.

SoCalGas

Final Workpaper for Line 41-6903 [redacted] TIMP Project

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 $1,124,300.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	135,473	135,473
Contract Costs	0	549,192	549,192
Material	0	78,169	78,169
Other Direct Charges	0	243,599	243,599
Total Direct Costs	0	1,006,433	1,006,433

Table 7: Actual Indirect Costs[3]

Indirect Costs/Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	117,578	117,578
AFUDC	0	259	259
Property Taxes	0	30	30
Total Indirect Costs	0	117,867	117,867

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	1,124,300	1,124,300

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 41-6903 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $1,124,300.

End of Line 41-6903 [redacted] TIMP Project Final Workpaper

I. LINE 115 [redacted] TIMP PROJECT

A. Background and Summary

Line 115 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 18 miles from [redacted]. The Project also assessed eight short segments of [redacted] lateral pipeline associated with Line 115 using the [redacted] assessment method. The pipeline is routed across Class 1, 3, and 4 locations with 17.5 miles within High Consequence Area(s) (HCAs) and 0.5 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 ten sites. The Project activities were located in the County of Los Angeles. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $5,688,040.

Final Workpaper for Line 115 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	115
Segment	[redacted]
Inspection Type	[redacted] ILI Tool
Location	Granada Hills and Glendale
Class	1, 3, 4
HCA Length	17.95 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	
Line	115-10.03-BR1
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 Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]

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Final Workpaper for Line 115 [redacted] TIMP Project

Direct Examination Details	
Line	115-10.03-BO1
Site	2
Examination ID	[redacted]
Type	[redacted]
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]
Due Date	[redacted]

Direct Examination Details	
Line	32-8042
Site	3
Examination ID	[redacted]
Type	[redacted]
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]
Due Date	[redacted]

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Final Workpaper for Line 115 [redacted] TIMP Project

Direct Examination Details	
Line	32-8042BR1
Site	4
Examination ID	[redacted]
Type	[redacted]
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]
Due Date	[redacted]
Direct Examination Details	
Line	3002X01
Site	5
Examination ID	[redacted]
Type	[redacted]
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]
Due Date	[redacted]

SoCalGas

Final Workpaper for Line 115 [redacted] TIMP Project

Direct Examination Details	
Line	115BO2
Site	6
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]
Direct Examination Details	
Line	115ST1
Site	7
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]

SoCalGas

Final Workpaper for Line 115 [redacted] TIMP Project

Direct Examination Details	
Line	115ST2
Site	8
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]
Direct Examination Details	
Site	9
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]

SoCalGas

Final Workpaper for Line 115 [redacted] TIMP Project

Direct Examination Details			
Site	10		
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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,620,419	4,067,621	5,688,040

Final Workpaper for Line 115 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 115 [redacted] TIMP Project

[redacted]

Final Workpaper for Line 115 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 typically occur during the Inspections including Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 115 for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] to a temporary receiver site on [redacted].
   b. The Project Team performed a retrofit at the receiver site to move the receiver from the street to the center divider
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, ten 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 soft pad repairs.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of no repairs.
   d. Direct Examination Site #4 consisted of no repairs.
   e. Direct Examination Site #5 consisted of no repairs.
   f. Direct Examination Site #6 consisted of soft pad repairs.
   g. Direct Examination Site #7 consisted of soft repairs.

h. Direct Examination Site #8 consisted of soft pad repairs.

i. Direct Examination Site #9 consisted of no repairs.

j. Direct Examination Site #10 consisted of no 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 ten Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
115	18 mi	[redacted]	[redacted]	[redacted]	Yes

Final Workpaper for Line 115 [redacted] TIMP Project

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
115-10.03-BR1	1	Yes	No	0.8 ft	Soft Pad	N/A	O&M
115-10.03-BO1	2	Yes	No	0.8 ft	No Repair	N/A	O&M
32-8042	3	Yes	No	0.6 ft	No Repair	N/A	O&M
32-8042 BR1	4	Yes	No	0.6 ft	No Repair	N/A	O&M
3002 X0	5	Yes	No	17 ft	No Repair	N/A	O&M
115BO2	6	Yes	No	24 ft	Soft Pad	N/A	O&M
115ST1	7	Yes	No	0.75 ft	Soft Pad	N/A	O&M
115ST2	8	Yes	No	0.75 ft	Soft Pad	N/A	O&M
115	9	Yes	No	17 ft	No Repair	N/A	O&M
115	10	Yes	No	14 ft	No Repair	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 115 [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 115 [redacted] TIMP Project

1. <u>Site Description:</u> The Inspection started at a temporary launcher site within [redacted] to a temporary receiver site on [redacted].
2. <u>HCA Threats:</u>
   [redacted]
3. <u>Pipe Vintage:</u> Multiple vintages from [redacted].
4. <u>Long Seam Type:</u>
   [redacted]
5. <u>Inspection Tools and Technologies:</u> The Project utilized [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
6. <u>Inspection Retrofits:</u> The Project Team performed a retrofit at the receiver site to mitigate traffic impacts by moving the temporary receiver location from the street to the median strip.
7. <u>System Analysis:</u> 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. <u>Customer Impacts:</u> The Project Team did not identify any anticipated service disruptions to customers.
9. <u>Community Impacts:</u> Traffic impacts and occasional noise.

[redacted]

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: No identified impacts.
13. Land Use: The Project Team obtained a Temporary Right of Entry (TRE) to utilize private property as a laydown yard for launcher site.
14. Traffic Control: The Project Team obtained traffic control plan (TCP) approval from the City of Glendale for lane closure required near the temporary receiver site.

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

Continuing the planning process for the Line 115 [redacted] TIMP Project, SoCalGas 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 eight [redacted] Sites selected to assess pipeline segments that could not accommodate an ILI tool within the Line 115 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of soft pad repairs.
      ii. Direct Examination Site #2 consisted of no repairs.
      iii. Direct Examination Site #3 consisted of no repairs.
      iv. Direct Examination Site #4 consisted of no repairs.
      v. Direct Examination Site #5 consisted of no repairs.
      vi. Direct Examination Site #6 consisted of soft pad repairs.
      vii. Direct Examination Site #7 consisted of soft repairs.
      viii. Direct Examination Site #8 consisted of soft pad repairs.

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

b. There were two Direct Examination Sites selected for validation of the ILI within the Line 115 [redacted] TIMP Project.
   i. Direct Examination Site #9 consisted of no repairs.
   ii. Direct Examination Site #10 consisted of no repairs.

2. 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.
3. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
4. Community Impacts: Traffic impacts and occasional noise.
5. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
6. Environmental: No identified impacts.
7. Permit Restrictions: The Project Team obtained the following permits:
   a. S-Permit from the Los Angeles Bureau of Engineering for Direct Examination Site #9.
   b. U-Permit from the Los Angeles Bureau of Engineering for Direct Examination Sites #9 and #10.
   c. A Peak Hours Exemption Permit from the Los Angeles Bureau of Engineering for Direct Examination Sites #9 and #10.
   d. A Noise Variance Permit from the Los Angeles Police Department for Direct Examination Sites #9 and #10.
8. Land Use: The Project Team obtained two TREs to utilize private property as laydown yards for Direct Examination Site #9 and #10.
9. Traffic Control: The Project Team obtained an approved Traffic Control Plan (TCP) from the City of Los Angeles for Direct Examination Sites #9 and #10.

10. Constructability:
    a. The Project Team utilized the excavation for receiver retrofits to perform Direct Examinations at Site #5 and Site #6.
    b. The Project Team was able to coordinate multiple times with another SoCalGas Project to perform Direct Examinations at Site #1, Site #2, Site #3, Site #4, Site #7, and Site #8.

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.

SoCalGas

Final Workpaper for Line 115 [redacted] TIMP Project

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SoCalGas 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 Sites #1, #2, #3, #4		
Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		
Mobilization 2: Direct Examination Sites #5, #6		
Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		
Mobilization 3: Direct Examination Sites #7, #8		
Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		
Mobilization 4: Direct Examination Sites #9, #10		
Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Direct Examination Site #6 Overview

[redacted]

Final Workpaper for Line 115 [redacted] TIMP Project

Figure 3: Direct Examination Site #9 Overview

[redacted]

Figure 4: Direct Examination Site #5 Overview

[redacted]

Figure 5: Short Segment 3002XO1 Overview

[redacted]

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

SoCalGas 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:
   a. The Project Team utilized the excavation for receiver retrofits to perform Direct Examinations at Site #5 and Site #6.
   b. The Project Team coordinated multiple times with another SoCalGas Project to execute the following construction activities.
      i. The Project Team coordinated with another SoCalGas Project to perform Direct Examinations at Site #1, Site #2, Site #3, and Site #4.
      ii. The Project Team coordinated with another SoCalGas Project to perform Direct Examinations at Site #7 and Site #8.

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Final Workpaper for Line 115 [redacted] TIMP Project

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 $5,688,040.

Table 8: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	121,269	359,083	480,352
Contract Costs	812,586	2,569,639	3,382,226
Material	1,310	210,422	211,732
Other Direct Charges	431,452	517,633	949,085
Total Direct Costs	1,366,617	3,656,777	5,023,394

Table 9: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	250,169	403,946	654,115
AFUDC	905	6,898	7,803
Property Taxes	2,728	0	2,728
Total Indirect Costs	253,802	410,844	664,646

Table 10: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,620,419	4,067,621	5,688,040

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 115 [redacted] TIMP Project. Through this Project, SoCalGas 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 $5,688,040.

End of Line 115 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

I. LINE 127 AND LINE 1004 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 127 and Line 1004 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed predominantly [redacted] diameter transmission lines that run approximately 22.5 miles from [redacted]. The Project also assessed two short segments of [redacted] lateral pipeline associated with Line 127 and Line 1004 Phase 1 [redacted] TIMP Project using the [redacted] assessment method. The pipeline is routed across Class 1 and 3 locations with 22.4 miles within High Consequence Area(s) (HCAs) and 0.1 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 two contained Immediate Repair Conditions (IRCs). The Project activities were located in Santa Barbara and Ventura counties. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $7,171,358.

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Final Workpaper for Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	127, 1004
Segment	Phase 1 [redacted]
Inspection Type	[redacted] ILI Tool
Location	Goleta and Carpinteria
Class	1, 3
HCA Length	22.4 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	
Line	1004-15.79-BR1
Site	1
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	No Repair
Within HCA	Yes
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]

Final Workpaper for Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Line	1004-15.79-BR2
Site	2
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	No Repair
Within HCA	Yes
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	Validation
Mitigation/Remediation Type	Soft Pad and 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]

Final Workpaper for Line 127 and Line 1004 Phase 1 [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 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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	3,685,318	3,486,040	7,171,358

B. Maps and Images

Figure 1: Satellite Image of Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 127 and Line 1004 Phase 1 [redacted] TIMP Project for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] to a permanent receiver site within [redacted].
   b. The Project required temporary installation of a launcher barrel and associated piping within [redacted]
   c. The Project required temporary installation of associated piping and a filter separator at [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, four 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 no repair.
   b. Direct Examination Site #2 consisted of no repair.
   c. Direct Examination Site #3 consisted of soft pad and band repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs and a 29 foot pipeline replacement.

e. The Project identified two Direct Examinations Sites containing IRCs.

3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations will be used to determine if additional examinations are required. This analysis is in progress and will be addressed after 2023.

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
127	1.6 mi	[redacted]	[redacted]	[redacted]	No
127	1.6 mi	[redacted]	[redacted]	[redacted]	No
1004	20.9 mi	[redacted]	[redacted]	[redacted]	No
1004	20.9 mi	[redacted]	[redacted]	[redacted]	No

Final Workpaper for Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

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
1004-15.79-BR1	1	Yes	No	18 ft	No Repair	N/A	O&M
1004-15.79-BR2	2	Yes	No	5 ft	No Repair	N/A	O&M
1004	3	Yes	Yes	16 ft	Soft Pad and Band	N/A	Capital
1004	4	Yes	Yes	40 ft	Soft Pad and Replacement	29 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 127 and Line 1004 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:

1. Site Description: The Inspection started at a temporary launcher site within [redacted] and ended at a permanent receiver site within [redacted]. The Project required temporary installation of associated piping at both the launcher and receiver locations. The Project also required a temporary filter separator at the receiver location.
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 [redacted] during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
   b. The Project ran an additional [redacted] capabilities to as a trial for a new vendor.
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 Team mitigated community impact by means of outreach communications to residential customers in the Project vicinity.

[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: No identified impacts.
12. Land Use:
    a. The Project Team utilized an existing SoCalGas facility as one of the laydown yards for the Inspection.
    b. The Project Team coordinated with a nearby SoCalGas project to secure a temporary right of entry for a laydown yard near the receiver site.
    c. The Project Team utilized an existing easement to access the receiver site.
13. Traffic Control: No identified impacts.
14. Schedule Delay: The Project temporarily paused construction activities due to a neighboring SoCalGas project.
15. Constructability:
    a. Two sites to be assessed using [redacted] were conducted during the Inspection Phase of the Project.
    b. The Project Team coordinated with a separate SoCalGas project to complete a [redacted].
    c. The Project included an additional run utilizing a [redacted] as a trial for a new tool vendor. The additional tool run was not utilized to evaluate the assessment of the pipeline.

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

SoCalGas 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:

Final Workpaper for Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

1. Engineering Assessment:
   a. There were two [redacted] Sites selected to assess pipeline segments that could not accommodate an ILI tool within the Line 127 and Line 1004 Phase 1 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of no repairs.
      ii. Direct Examination Site #2 consisted of no repairs.
      iii. The Project Team completed these Direct Examinations during the Inspection Phase of the Project.
   b. There were two Direct Examination Sites selected for validation of the ILI within the Line 127 and Line 1004 Phase 1 [redacted] TIMP Project.
      i. Direct Examination Site #3 consisted of soft pad and band repairs.
      ii. Direct Examination Site #4 consisted of soft pad repairs and a 29 foot pipeline replacement.
2. SRC/IRC: Direct Examination Sites #3 and #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 pipeline required isolation to complete repairs for Direct Examination Site #4. Isolation of the segment was achieved with minimal system impact.
4. Customer Impacts: No customer impacts.
5. Community Impacts: The Project Team mitigated community impact by means of outreach communications to residential customers in the Project vicinity.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental:
   a. The Project required the installation of barrier fencing around the work area for Direct Examination Sites #1 and #2 to prevent impacts to nearby wetland and riparian area.

   b. The Project Team was required to limit construction activities within vegetated areas to less than 500 square feet to comply with Coastal Commission regulations for Direct Examination Site #3.

8. <u>Permit Restrictions:</u> The Project Team obtained approved permits from the following entities:
   a. Utility Encroachment Permit from the County of Santa Barbara Department of Public Works for Direct Examination Sites #1 and #2.
   b. Utility Encroachment Permit from the County of Santa Barbara Department of Public Works for Direct Examination Site #3.
   c. Encroachment Permit from the California Department of Transportation for Direct Examination Site #3.
   d. Utility Construction Permit from the City of Santa Barbara Department of Public Works for Direct Examination Site #4.
9. <u>Land Use:</u> The Project shared a laydown yard with another SoCalGas project for Direct Examination Sites #3 and #4.
10. <u>Traffic Control:</u> The Project Team obtained approved Traffic Control Plans (TCPs) from the following entities:
    a. Caltrans for Direct Examination Site #3.
    b. City of Santa Barbara for Direct Examination Site #4.
11. <u>Schedule Delay:</u> The Project Team mobilized for Direct Examination Sites #3 and #4 separately due to delayed approval of the Caltrans traffic control plan for Direct Examination Site #3.
12. <u>Constructability:</u>
    a. The Project Team completed Direct Examination Sites #1 and #2 during the Inspection Phase of the Project.
    b. The Project Team utilized the same isolation period as a nearby SoCalGas project for Direct Examination Site #4.

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, SoCalGas 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	[redacted]	
Inspection Due Date	[redacted]	

Table 5: Construction Timeline – Direct Examination

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

Table 6: Construction Timeline – IRC

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

Final Workpaper for Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

Figure 2: Launcher Site

[redacted]

Figure 3: Launcher Site

[redacted]

Figure 4: Receiver Site

[redacted]

Final Workpaper for Line 127 and Line 1004 Phase 1 [redacted] TIMP Project

Figure 5: Direct Examination Site #1

[redacted]

Figure 6: Direct Examination Site #2

[redacted]

Figure 7: Direct Examination Site #4

[redacted]

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

SoCalGas 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. Materials: The Project team sourced contingency material from another SoCalGas project, minimizing material and pressure testing costs.
2. Schedule Coordination: The Project Team utilized the same isolation period as another SoCalGas project for Direct Examination Site #4, minimizing project costs.
3. Land Use:
    a. The Project Team utilized SoCalGas company facilities as laydown yards for the Inspection and Direct Examination Sites #1 and #2, minimizing project costs.
    b. The Project shared a laydown yard with another SoCalGas project for the Direct Examinations Sites #3 and #4.
4. Construction Execution: The Project Team was able to coordinate with another SoCalGas project to complete a [redacted].

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 $7,171,358.

Table 7: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	153,526	537,426	690,951
Contract Costs	2,503,990	1,537,779	4,041,768
Material	116,744	75,207	191,951
Other Direct Charges	300,479	900,902	1,201,381
Total Direct Costs	3,074,739	3,051,313	6,126,052

Table 8: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	584,312	434,727	1,019,039
AFUDC	20,372	0	20,372
Property Taxes	5,895	0	5,895
Total Indirect Costs	610,580	434,727	1,045,307

Table 9: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	3,685,318	3,486,040	7,171,358

[4] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[5] Values may not add to total due to rounding.
[6] Ibid.
[7] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 127 and Line 1004 Phase 1 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 findings of the assessment. The total loaded cost of the Project is $7,171,358.

End of Line 127 and Line 1004 Phase 1 [redacted] TIMP Project Final Workpaper

SoCalGas

Final Workpaper for Line 160 and Line 1005 [redacted] TIMP Project

I. LINE 160 AND LINE 1005 [redacted] TIMP PROJECT

A. Background and Summary

Line 160 and Line 1005 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] and [redacted] diameter transmission line that runs approximately 39.3 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 24.3 miles within High Consequence Area(s) (HCAs) and 15 miles within non-HCAs. This Workpaper describes the activities and costs associated with a TIMP Assessment that includes Inspections using In-Line Inspection (ILI) located in the counties of Santa Barbara and Ventura. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $14,145,711.

Final Workpaper for Line 160 and Line 1005 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	160 and 1005		
Segment	[redacted]		
Inspection Type	[redacted] ILI Tools		
Location	Goleta, Santa Barbara, Carpinteria, Ventura		
Class	1, 2, and 3		
HCA Length	24.3 miles		
Vintage	Multiple vintages from [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values from [redacted]		
Construction Start Date	[redacted]		
Construction Completion Date			
Final Tool Run Date			
Inspection Due Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	5,720,671	8,425,040	14,145,711

Final Workpaper for Line 160 and Line 1005 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 160 and Line 1005 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 typically occur during the Inspection.

Prior to initiating execution of the assessment, SoCalGas 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. <u>Inspection – Engineering, Design, and Constructability:</u> SoCalGas identified Line 160 and Line 1005 for Inspection using ILI which was completed in two segments.
   a. Segment one of the ILI was from a temporary launcher site adjacent to [redacted] to a temporary receiver site on [redacted].
   b. Segment two of the ILI was from a temporary launcher site on [redacted] to a temporary receiver site within [redacted].
   c. New valve installation completed at [redacted] receiver location to facilitate the ILI.
   d. Installation of a removable spool piece within a vault on [redacted] to serve as the future location to install the temporary launcher and receiver.
   e. Replacement of a [redacted] elbow on [redacted] to facilitate the current and future ILIs.
2. <u>Direct Examination</u> – Following the completion of the Inspections using ILI, Direct Examination sites were identified for validation and will be addressed after 2023, outside the scope of this proceeding.
3. <u>Post-Assessment – Engineering, Design, and Constructability:</u> The validation analysis of any future Direct Examinations will be used to determine if additional examinations are required.

SoCalGas.

Final Workpaper for Line 160 and Line 1005 [redacted] TIMP Project

4. Final Project Scope: The final project scope of this Workpaper includes Inspections using ILI and pipeline retrofits.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
160	0.8 mi	[redacted]	[redacted]	[redacted]	Yes
1005	38.5 mi	[redacted]	[redacted]	[redacted]	Yes

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 160 and Line 1005 [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 Project completed the Inspection of the pipeline in two separate segments from [redacted] due to a change in diameter.

   a. ILI from a temporary launcher site adjacent to [redacted] to a temporary receiver site on [redacted].

   b. ILI from a temporary launcher site on [redacted] to a temporary receiver site within [redacted].

2. HCA Threats:

   [redacted]

Final Workpaper for Line 160 and Line 1005 [redacted] TIMP Project

[redacted]

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

[redacted]

5. Inspection Tools and Technologies:
   a. The Project utilized [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
   b. The Project required one additional ILI run for each segment due to technology malfunctions that occurred during the first Inspection.
6. Inspection Retrofits: The Project completed the following permanent retrofits during this Project:
   a. Installation of a new [redacted] valve on [redacted] to facilitate this Inspection as well as future Inspections.
   b. Installation of a removable spool piece within a vault on [redacted] in Carpinteria that will serve as an easily accessible location for future temporary launcher and receiver installations.
   c. Replacement of a [redacted] elbow on [redacted] to enhance the piggability of the pipeline.

[redacted]

Final Workpaper for Line 160 and Line 1005 [redacted] TIMP Project

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:
   a. The Project Team mitigated community impact by means of outreach communications to residential customers in the project vicinity.
   b. The Project Team provided written notifications of the Project extents to nearby establishments.
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 County of Santa Barbara Department of Public Works.
13. Land Use:
   a. The Project Team obtained a Temporary Right of Entry (TRE) Agreement from a private landowner to access the temporary launcher and receiver near [redacted].
   b. The Project Team obtained a TRE Agreement from a private landowner to utilize land as a laydown yard and workspace near [redacted].
14. Traffic Control: The Project Team obtained approved Traffic Control Plans (TCP) from the County of Santa Barbara for the temporary launcher and receiver location near [redacted].
15. Schedule Delay: The [redacted] failure required repairs on the ILI tool and a second run on each segment which delayed the Project.
16. Constructability: The Project Team had to complete this Project in two segments due to the varying diameters of the pipelines. This required the installation of two sets of launcher and receivers and separate ILI runs for each Inspection. The Project also included significant retrofitting of the line to enhance piggability, facilitate the Inspections that were completed, and improve accessibility for future Inspections.

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

SoCalGas 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 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 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, SoCalGas 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		

Figure #2: Ready for Sand Blasting

[redacted]

Final Workpaper for Line 160 and Line 1005 [redacted] TIMP Project

Figure #3: Launcher and Receiver Piping at [redacted] Site

[redacted]

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 disposal of 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

SoCalGas 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.

Final Workpaper for Line 160 and Line 1005 [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 $14,145,711.

Table 4: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	160,000	824,385	984,385
Contract Costs	3,820,861	3,713,337	7,534,198
Material	284,617	546,643	831,260
Other Direct Charges	552,484	2,413,595	2,966,079
Total Direct Costs	4,817,962	7,497,960	12,315,922

Table 5: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	822,999	927,080	1,750,079
AFUDC	61,536	0	61,536
Property Taxes	18,174	0	18,174
Total Indirect Costs	902,709	927,080	1,829,789

Table 6: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	5,720,671	8,425,040	14,145,711

[3] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[4] Values may not add to total due to rounding.
[5] Ibid.
[6] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of their integrated natural gas system by executing the Line 160 and Line 1005 [redacted] TIMP Project. Through this Project, SoCalGas successfully implemented and managed the requirements set forth in 49 CFR Part 192, Subpart O, to achieve the objective to continually identify threats to its pipelines, determine the risk posed by these threats, schedule and track assessments to address threats, conduct an appropriate assessment in a prescribed timeline, collect information about the condition of the pipelines, take actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and Workpaper findings of Line 160 and Line 1005 in the counties of Santa Barbara and Ventura. The total loaded cost of the Project is $14,145,711.

End of Line 160 and Line 1005 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

I. LINE 160 AND LINE 1005 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 160 and Line 1005 Phase 2 [redacted] the Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 18.6 miles from avocado fields in [redacted], in Ventura. The pipeline is routed across Class 1, 2, and 3 locations with 2.3 miles within High Consequence Area(s) (HCAs) and 16.3 miles within non-HCAs. This Workpaper describes the activities and costs associated with Direct Examinations made to four sites. The Project activities were located in the City of Ventura and City of Carpinteria. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $1,170,645.

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Direct Examination Details	
Site	1
Examination ID	[redacted]
Mitigation/Remediation Type	Soft Pad and Band
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	2
Examination ID	[redacted]
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]
Direct Examination Details	
Site	3
Examination ID	[redacted]
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 160 and Line 1005 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Remediation Type	Soft Pad		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	83,147	1,087,498	1,170,645

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 160 and Line 1005 Phase 2 [redacted] [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 that occurred during Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 160 and Line 1005 Phase 2 [redacted] TIMP Project for Inspection using In-Line Inspection (ILI), activities related to the ILI were completed for this Project before the TY 2019 General Rate Case (GRC) cycle.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, four Direct Examination sites were identified for validation.
    a. Direct Examination Site #1 consisted of soft pad and two band repairs.
    b. Direct Examination Site #2 consisted of soft pad repairs.
    c. Direct Examination Site #3 consisted of soft pad repairs.
    d. Direct Examination Site #4 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 four Direct Examinations.

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

Table 2: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
1005	1	No	No	15 ft	Soft Pad and Band	N/A	Capital
1005	2	Yes	No	31 ft	Soft Pad	N/A	O&M
1005	3	Yes	No	28 ft	Soft Pad	N/A	O&M
1005	4	No	No	21 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Planning Factors – Inspection

SoCalGas previously completed the Inspection for the Line 160 and Line 1005 Phase 2 [redacted] TIMP Project before the TY 2019 GRC cycle.

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

SoCalGas 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. <u>Engineering Assessment:</u> There were four Direct Examination Sites selected for validation within the Line 160 and Line 1005 Phase 2 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad and two band repairs.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs.
   e. There were no SRCs/IRCs identified during the Direct Examinations.
2. <u>SRC/IRC:</u> There were no SRCs or IRCs during the Direct Examinations.

3. <u>System Analysis:</u> The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations for the Project could be completed without system impacts.
4. <u>Customer Impacts:</u> No customer impacts.
5. <u>Community Impacts:</u> No identified impacts.
6. <u>Substructures:</u> No identified impacts.
7. <u>Environmental:</u> No identified impacts.
8. <u>Permit Restrictions:</u> The Project Team obtained the following permits for the Project:
   a. Utility Encroachment Permit from the County of Santa Barbara Department of Public Works for Direct Examination Site #2.
   b. Utility Permit from the City of Carpinteria Department of Public Works for Direct Examination Sites #3 and #4.
9. <u>Land Use:</u> The Project Team obtained a temporary right of entry (TRE) agreement from the property owners for Direct Examination Site #1.
10. <u>Traffic Control:</u> The Project Team obtained Traffic Control Plan (TCP) approvals from the City of Carpinteria Department of Public Works for Direct Examination Sites #3 and #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, SoCalGas selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 3: Construction Timeline – Direct Examination

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

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

Figure 2: Direct Examination Site #2

[redacted]

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

Figure 3: Direct Examination Site #2

[redacted]

Figure 4: Direct Examination Site #3

[redacted]

Figure 5: Direct Examination Site #4

[redacted]

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

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

SoCalGas 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. Land Use: The Project Team utilized nearby SoCalGas facilities as laydown yards, eliminating the need for additional laydown yard areas for the Direct Examinations.
2. Permit Conditions: The Project Team utilized one permit for both Direct Examination Sites #3 and #4 to reduce project costs.

SoCalGas.

Final Workpaper for Line 160 and Line 1005 Phase 2 [redacted] TIMP Project

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 $1,170,645.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	8,096	100,519	108,616
Contract Costs	31,059	581,995	613,054
Material	0	52,497	52,497
Other Direct Charges	736	254,672	255,409
Total Direct Costs	39,892	989,684	1,029,575

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	10,885	95,321	106,206
AFUDC	24,639	2,494	27,132
Property Taxes	7,731	0	7,731
Total Indirect Costs	43,255	97,814	141,070

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	83,147	1,087,498	1,170,645

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 160 and Line 1005 Phase 2 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $1,170,645.

End of Line 160 and Line 1005 Phase 2 [redacted] TIMP Project Final Workpaper

I. LINE 225 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 225 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 11.3 miles from [redacted], through agricultural land. The pipeline is routed across Class 1, 2, and 3 locations with 2.2 miles within High Consequence Area(s) (HCAs) and 9.1 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI), the Direct Examinations made to four sites, and Post Assessment remediations made to two sites. The activities were located in the cities of Wheeler Ridge, Grapevine, McFarland, and Mettler in Kern County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $8,967,220.

SoCalGas.

Final Workpaper for Line 225 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	225
Segment	Phase 1 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	Wheeler Ridge and Grapevine
Class	1, 2, and 3
HCA Length	2.2 miles
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]
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]

SoCalGas

Final Workpaper for Line 225 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
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]
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	4
Examination ID	[redacted]
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]

Final Workpaper for Line 225 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post Assessment Details			
Site	1		
Examination ID	[redacted]		
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]		
Post Assessment Details			
Site	2		
Examination ID	[redacted]		
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	5,067,805	3,899,415	8,967,220

B. Maps and Images

Figure 1: Satellite Image of Line 225 Phase 1 [redacted] TIMP Project – Inspection and Direct Examinations

[redacted]

Final Workpaper for Line 225 Phase 1 [redacted] TIMP Project

Figure 2: Satellite Image of Line 225 Phase 1 [redacted] TIMP Project – Post Assessment

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, and Travis Sera (Chapter II), TIMP projects follow the four-step assessment process: Pre-Assessment, Inspection, Direct Examination, and Post Assessment. This Workpaper outlines project activities associated with the Inspection including Direct Examinations and Post Assessment.

Prior to initiating execution of the assessment, SoCalGas 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, 3, and 4 below.

1. <u>Inspection – Engineering, Design, and Constructability:</u> SoCalGas identified Line 225 Phase 1 for Inspection using ILI.
   a. The Inspection started at a permanent launcher site within the [redacted] and ended at a permanent receiver site at [redacted].
   b. The Project Team installed a temporary filter separator at the receiver site to facilitate the Inspection.
2. <u>Direct Examination – Engineering, Design, and Constructability:</u> Following the completion of the Inspection using ILI, four 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.
   d. Direct Examination Site #4 consisted of soft pad repairs.
3. <u>Post Assessment – Engineering, Design, and Constructability:</u> The validation analysis of the Direct Examinations following the Inspection resulted in two additional examinations.

a. Post-Assessment Site #1 consisted of a 46 foot replacement.

b. Post-Assessment Site #2 consisted of soft pad repairs.

4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI for Line 225 Phase 1, four Direct Examinations, and two Post Assessment examinations.

Table 2: Final Inspection Project Scope - ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
225	11.3 miles	[redacted]	[redacted]	[redacted]	No
225	11.3 miles	[redacted]	[redacted]	[redacted]	No
225	11.3 miles	[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
225	1	No	No	19 ft	Soft Pad	N/A	O&M
225	2	No	No	21 ft	Soft Pad	N/A	O&M
225	3	No	No	23 ft	Soft Pad	N/A	O&M
225	4	No	No	18 ft	Soft Pad	N/A	O&M

Table 4: Final Post Assessment Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
225	1	Yes	No	58 ft	Replacement	46 ft	Capital
225	2	No	No	40 ft	Soft Pad	N/A	Capital

B. Engineering, Design, and Planning Factors – Inspection

SoCalGas initiated the planning process for the Line 225 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:

1. Site Description:
   a. The Inspection started at a permanent launcher site within [redacted] and ended at a permanent receiver site at [redacted].
   b. The Project Team installed a temporary filter separator at the receiver site to facilitate the Inspection.
2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted]
4. Long Seam Type: [redacted]
5. Inspection Tools and Technologies: The Project utilized a high resolution [redacted], during the Inspection of the pipeline.
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: No identified impacts.

12. Land Use: The Project Team utilized the [redacted] as a laydown yard.
13. Traffic Control: No identified impacts.
14. Constructability: No identified impacts.

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

Continuing the planning process for the Line 225 Phase 1 [redacted] TIMP Project, SoCalGas 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 within the Line 225 Phase 1 [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.
   d. Direct Examination Site #4 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 Examination 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 experienced environmental concerns with blunt nosed leopard lizards.
8. Permit Restrictions: No identified impacts.

9. Land Use: The Project Team obtained a Temporary Right of Entry (TRE) from a private landowner for the use of a laydown yard.
10. Traffic Control: No identified impacts.
11. Schedule Delays: The Project Team experienced schedule delays due to system constraints and environmental concerns.

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 two additional examinations to enhance the overall integrity and safety of the pipeline. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Analysis: There were two Post Assessment sites selected for remediation within the Line 225 Phase 1 [redacted] TIMP Project.
    a. Post Assessment site #1 consisted of 46 ft of replacement.
    b. Post Assessment site #2 consisted of soft pad repairs.
2. SRC/IRC: There were no SRCs or IRCs identified during Post-Assessment.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded which concluded a full isolation of the pipeline segment would have a significant impact on the system. Therefore, the Project required installation of a temporary bypass.
4. Customer Impacts: The Project Team determined that customer service could be maintained to core and non-core customers by installing a bypass and utilizing Pressure Control Fittings (PCFs).
5. Community Impacts: No identified impacts.

6. Permit Restrictions: No identified issues.
7. Constructability: The Project Team determined a temporary bypass was required for Post Assessment Site #1 to maintain system capacity. The following was installed to facilitate the bypass:
   a. 22 feet of [redacted] pipe.
   b. Two PCFs.
   c. Concrete PCF supports.
8. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
9. Environmental: The Project Team required a blunt nosed leopard lizards survey for Post Assessment sites #1 and #2.
10. Traffic Control: No identified impacts.
11. Land Use: The Project Team obtained a TRE from a private landowner for the use of a laydown yard at Post Assessment Sites #1 and #2.
12. Schedule Delays: The Project Team experienced schedule delays due to system constraints and environmental concerns. This also caused a Direct Examination to be delayed until the Post Assessment step. Upon further review of the completed Direct Examinations, the delayed Direct Examination was reclassified from validation to remediation.

III. CONSTRUCTION

A. Construction Contractor Selection

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

B. Construction Schedule

Table 5: Construction Timeline – Inspection

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

Table 6: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Table 7: Construction Timeline – Post Assessment

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Excavation for Direct Examination Site #4

[redacted]

Figure 3: Post Assessment Site #2

[redacted]

Figure 4: Post Assessment Site #1

[redacted]

Figure 5: PCF Installation for Bypass

[redacted]

Figure 6: PCF Installation for Bypass

[redacted]

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

SoCalGas 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 $8,967,220.

Table 7: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	193,115	420,651	613,766
Contract Costs	3,224,522	1,647,036	4,871,558
Material	545,623	153,987	699,609
Other Direct Charges	302,575	1,280,125	1,582,700
Total Direct Costs	4,265,834	3,501,800	7,767,634

Table 8: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	750,697	397,615	1,148,312
AFUDC	41,475	0	41,475
Property Taxes	9,798	0	9,798
Total Indirect Costs	801,971	397,615	1,199,586

Table 9: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	5,067,805	3,899,415	8,967,220

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of their integrated natural gas system by prudently executing the Line 225 Phase 1 [redacted] TIMP Project. Through this Project, SoCalGas successfully implemented and managed the requirements set forth in 49 CFR Part 192, Subpart O, to achieve the objective to continually identify threats to its pipelines, determine the risk posed by these threats, schedule and track assessments to address threats, conduct an appropriate assessment in a prescribed timeline, collect information about the condition of the pipelines, take actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and report findings of Line 225 Phase 1 in the cities of Wheeler Ridge, Grapevine, McFarland, and Mettler in Kern County. The total loaded cost of the Project is $8,967,220.

End of Line 225 Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 225 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 225 Phase 2 Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 13 miles from [redacted], through agricultural land and suburban areas. The pipeline is routed across Class 1, 2, and 3 locations with 10.0 miles within High Consequence Areas (HCAs) and 3.0 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and Direct Examinations. The Project activities were located in the cities of Castaic, Valencia, and Santa Clarita. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $2,399,184.

SoCalGas

Final Workpaper for Line 225 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	225
Segment	Phase 2 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	Castaic and Santa Clarita
Class	1, 2, 3
HCA Length	10.0 miles
Vintage	[redacted]
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	[redacted]
SMYS *(confidential)*	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]
Mitigation/Remediation Type	Soft Pad
Within HCA	No
SRC/IRC	No
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	[redacted]
SMYS *(confidential)*	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 225 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter *(confidential)*	[redacted]		
MAOP *(confidential)*	[redacted]		
SMYS *(confidential)*	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter *(confidential)*	[redacted]		
MAOP *(confidential)*	[redacted]		
SMYS *(confidential)*	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter *(confidential)*	[redacted]		
MAOP *(confidential)*	[redacted]		
SMYS *(confidential)*	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	0	2,399,184	2,399,184

B. Maps and Images

Figure 1: Satellite Image of Line 225 Phase 2 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 typically occur during the Inspection including Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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. <u>Inspection – Engineering, Design, and Constructability:</u> SoCalGas identified Line 225 Phase 2 for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] to a permanent receiver site within [redacted].
   b. The Project Team installed temporary piping at both launcher and receiver sites to facilitate the Inspection.
2. <u>Direct Examination – Engineering, Design, and Constructability:</u> Following the completion of the Inspection using ILI, four 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.
   d. Direct Examination Site #4 consisted of soft pad repairs.
3. <u>Post-Assessment – Engineering, Design, and Constructability:</u> The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

4. Final Project Scope: The final project scope consists of Inspection using ILI for Line 225 Phase 2, 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
225	13 miles	[redacted]	[redacted]	[redacted]	No
225	13 miles	[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
225	1	No	No	38.5 ft	Soft Pad	N/A	O&M
225	2	Yes	No	22.3 ft	Soft Pad	N/A	O&M
225	3	No	No	28.5 ft	Soft Pad	N/A	O&M
225	4	Yes	No	34.6 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 225 Phase 2 [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 Inspection started at a permanent launcher site within [redacted] and ended at a permanent receiver site within [redacted].

2. <u>HCA Threats:</u>

   [redacted]

3. <u>Pipe Vintage:</u> [redacted]
4. <u>Long Seam Type:</u>

   [redacted]

5. <u>Inspection Tools and Technologies:</u> The Project utilized an [redacted] during the inspection of the pipeline. [redacted] were also utilized in preparation for the inspection.
6. <u>System Analysis:</u> 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. <u>Customer Impacts:</u> No customer impacts.
8. <u>Community Impacts:</u> No identified impacts.
9. <u>Substructures:</u> The Project Team did not identify any existing substructures that impacted the design and engineering.
10. <u>Environmental:</u> No identified impacts.
11. <u>Permit Restrictions:</u> No identified impacts.
12. <u>Land Use:</u> No identified impacts.
13. <u>Traffic Control:</u> No identified impacts.

[redacted]

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

SoCalGas initiated the planning process for the Line 225 Phase 2 [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. Engineering Assessment: There were four Direct Examination Sites selected for validation within the Line 225 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.
   d. Direct Examination Site #4 consisted of soft pad repairs.
   e. No SRC or IRC conditions were identified.
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 Examination 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: 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 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, SoCalGas 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, #2, #3, #4		
Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Direct Examination Site #1 Overview

[redacted]

Final Workpaper for Line 225 Phase 2 [redacted] TIMP Project

Figure 3: Launcher Location

[redacted]

Figure 4: [redacted]

[redacted]

Figure 5: [redacted]

[redacted]

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

SoCalGas 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. Materials: The Project Team reused contingency material that was originally in place for a previous ILI.
2. Land Use: The Project Team utilized one laydown yard inside a SoCalGas facility for all four direct examinations for fabrication and storage at no cost.

Final Workpaper for Line 225 Phase 2 [redacted] TIMP Project

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 $2,399,184.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	224,508	224,508
Contract Costs	0	1,276,821	1,276,821
Material	0	103,223	103,223
Other Direct Charges	0	555,062	555,062
Total Direct Costs	0	2,159,614	2,159,614

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	239,570	239,570
AFUDC	0	0	0
Property Taxes	0	0	0
Total Indirect Costs	0	239,570	239,570

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	2,399,184	2,399,184

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 225 Phase 2 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $2,399,184.

End of Line 225 Phase 2 [redacted] TIMP Project Final Workpaper

I. LINE 225 PHASE 3 [redacted] TIMP PROJECT

A. Background and Summary

Line 225 Phase 3 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately three miles in the unincorporated community of Castaic. The pipeline is routed across [redacted] locations with 0.5 miles within High Consequence Areas (HCAs) and 2.5 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), the Direct Examination made to one site that included one Safety Related Condition (SRC), and Station Retrofits. The Project activities were located in the City of Castaic. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $20,709,976.

SoCalGas

Final Workpaper for Line 225 Phase 3 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	225
Segment	Phase 3 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	Castaic
Class	[redacted]
HCA Mileage	0.5 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]
Mitigation/Remediation Type	Soft Pad, Replacement
Within HCA	No
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 Line 225 Phase 3 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Station Retrofit			
Installation Scope	Permanent Launcher Piping		
Location	[redacted]		
Line	225		
Class	[redacted]		
Size	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Station Retrofit			
Installation Scope	Receiver Location Retrofits		
Location	[redacted]		
Line	225		
Class	[redacted]		
Size	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Station Retrofit			
Installation Scope	Permanent Launcher Barrel and Retaining Walls		
Location	[redacted]		
Line	225		
Class	[redacted]		
Size	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	15,295,577	5,414,399	20,709,976

Final Workpaper for Line 225 Phase 3 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 225 Phase 3 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the prepared direct testimony of Jordan Zeoli, Fidel Galvan, 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 typically occur during the Inspection including Direct Examination.

Prior to initiating execution of the assessment, SoCalGas 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, 3, and 4 below.

1. <u>Inspection – Engineering, Design, and Constructability:</u> SoCalGas identified Line 225 Phase 3 for Inspection using ILI.
   a. ILI from a temporary launcher site southwest of [redacted] to a temporary receiver site within [redacted].
   b. The Project Team installed permanent associated piping at the launcher site and a temporary filter separator and associated piping at the receiver site to facilitate the Inspection.
2. <u>Direct Examination – Engineering, Design, and Constructability:</u> Following the completion of the Inspection using ILI, one Direct Examination site was identified for validation.
   a. Direct Examination Site #1 was identified as an SRC and consisted of soft pad repairs and a 91 foot replacement.
3. <u>Post Assessment – Engineering, Design, and Constructability:</u> The validation analysis of any future Direct Examinations will be used to determine if additional examinations are required.

4. Station Retrofits– Engineering, Design, and Constructability: The Project Team completed Station Retrofits before and after the Inspection to install new permanent launcher and associated permanent piping at the receiver site in Castaic.
5. Final Project Scope: The final project scope consists of Inspection using ILI, one Direct Examination that was identified as an SRC, and Station Retrofits.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
225 P3	2.81 mi	[redacted]	[redacted]	[redacted]	Yes
225 P3	2.81 mi	[redacted]	[redacted]	[redacted]	Yes
225 P3	2.81 mi	[redacted]	[redacted]	[redacted]	Yes
225 P3	2.81 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
225 P3	1	No	Yes	110 ft	Soft Pad, Replacement	91 ft	Capital

[redacted]

Final Workpaper for Line 225 Phase 3 [redacted] TIMP Project

Table 4: Final Station Retrofit Project Scope

Final Project Scope				
Location	Line	Installation Scope	Size	Cost Category
Castaic	225	Launcher Barrel	[redacted]	Capital
		Launcher Associated Piping	Various	Capital
		Receiver Associated Piping	Various	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 225 Phase 3 [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 Inspection started at a temporary launcher site [redacted] and ended at a temporary receiver site within [redacted]. To complete the Inspection, the Project Team installed permanent associated piping at the launcher site.
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] tool during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
6. Inspection Retrofits: To complete the Inspection, the Project Team installed permanent associated piping at the launcher site.
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: No identified impacts.
12. Permit Restrictions: There were no special permits or permit restrictions for this Project.
13. Land Use: The Project Team required a Temporary Right of Entry (TRE) for the use of a laydown yard at both launcher and receiver sites.
14. Traffic Control: The Project Team did not identify any traffic control needs at the site.
15. Constructability: This section of pipeline has historically been assessed using the [redacted] method. [redacted]

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

Continuing the planning process for the Line 225 Phase 3 [redacted] TIMP Project, SoCalGas 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. <u>Engineering Assessment:</u> 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 and a 91 foot replacement.
2. <u>SRC/IRC:</u> Direct Examination Site #1 resulted in an SRC and required an expedited project schedule.
3. <u>System Analysis:</u> The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
4. <u>Customer Impacts:</u> No customer impacts.
5. <u>Community Impacts:</u> No identified impacts.
6. <u>Substructures:</u> The Project Team did not identify any existing substructures that impacted the design and engineering.
7. <u>Environmental:</u> No identified impacts.
8. <u>Permit Restrictions:</u> There were no special permits or permit restrictions for this Project.
9. <u>Land Use:</u> The Project Team required a TRE for use of a laydown yard at Direct Examination Site #1.
10. <u>Traffic Control:</u> The Project Team did not identify any traffic control needs at the site.

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.

E. Engineering, Design, and Constructability Factors – Station Retrofits

SoCalGas prudently executed additional installations of permanent Inspection assemblies to facilitate future Inspections and meet compliance schedules for the Line 225 Phase 3 [redacted] TIMP Project. Key factors that influenced the engineering and design of the installations are as follows:

1. Site Description: The Project Team performed the following Station Retrofits:
   a. Permanent launcher piping installation that included installation of [redacted] pipe and a buried ball valve, bridals, Y assembly, and associated fittings.
   b. Receiver location retrofits were completed that included removal of [redacted] permanent receiver piping, a gate valve, and chain link fencing. The piping was replaced with [redacted] pipe, a ball valve, and new fencing to combine Line 225 Phase 3 and Line 225 Phase 2 TIMP Projects for future ILIs.
   c. A permanent launcher barrel was installed to facilitate future ILIs. Retaining walls at both launcher and receiver sites were also constructed.

2. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be isolated for a limited amount of time without system impacts. This Project Team had to work within expedited timelines in order to plan and execute in these small isolation windows.
3. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
4. Community Impacts: No identified impacts.
5. Permit Restrictions: There were no special permits or permit restrictions for this project.
6. Constructability:
   a. As a receiver retrofit, the Project Team removed a valve and launcher site that has been utilized for Line 225 Phase 2. This will allow Line 225 Phase 3 to merge into Line 225 Phase 2 for one continuous Inspection on future ILIs.
   b. The Project Team was required to perform the retrofits during a tight isolation window as this pipeline is crucial to the overall SoCalGas system.
7. Substructures: No identified impacts.
8. Environmental: No identified impacts.
9. Traffic Control: No identified impacts.
10. Land Use: The Project Team required a TRE for the use of a laydown yard at both launcher and receiver retrofit sites.
11. Other Identified Risks: Due to significant weather events, landslides occurred and both launcher and receiver sites. The Project Team was then required to install retaining walls at each site.

CONSTRUCTION

A. Construction Contractor Selection

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

B. Construction Schedule

Table 5: Construction Timeline – Inspection

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

Table 6: Construction Timeline – Direct Examination

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

Table 7: Construction Timeline – SRC

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

Table 8: Construction Timeline – Station Retrofit

Mobilization #1 – Permanent Launcher Piping		
Construction Start Date	[redacted]	
Construction Completion Date	[redacted]	
Mobilization #2 – Receiver Location Retrofits		
Construction Start Date	[redacted]	
Construction Completion Date	[redacted]	
Mobilization #2 – Permanent Launcher Barrel and Retaining Walls		
Construction Start Date	[redacted]	
Construction Completion Date	[redacted]	

Final Workpaper for Line 225 Phase 3 [redacted] TIMP Project

Figure 2: SRC at Direct Examination Site #1

[redacted]

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.

III. PROJECT COSTS

A. Cost Efficiency Actions

SoCalGas 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 $20,709,976.

Table 9: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	728,176	422,451	1,150,627
Contract Costs	8,379,208	2,211,478	10,590,686
Material	1,320,640	1,037,031	2,357,670
Other Direct Charges	2,378,845	1,238,205	3,617,049
Total Direct Costs	12,806,868	4,909,164	17,716,032

Table 10: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	2,386,482	505,235	2,891,717
AFUDC	71,167	0	71,167
Property Taxes	31,060	0	31,060
Total Indirect Costs	2,488,709	505,235	2,993,944

Table 11: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	15,295,577	5,414,399	20,709,976

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

IV. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 225 Phase 3 [redacted] TIMP Project. Through this Project, SoCalGas successfully implemented and managed the requirements set forth in 49 CFR Part 192, Subpart O, to achieve the objective to continually identify threats to its pipelines, determine the risk posed by these threats, schedule and track assessments to address threats, conduct an appropriate assessment in a prescribed timeline, collect information about the condition of the pipelines, take actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and Workpaper findings of Line 225 Phase 3 in the City of Castaic. The total loaded cost of the Project is $20,709,976.

End of Line 225 Phase 3 [redacted] TIMP Project Final Workpaper

I. LINE 235 EAST PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 235 East Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 58.8 miles from the [redacted]. The pipeline is routed across Class 1 and 2 locations entirely within non-High Consequence Areas (HCAs). This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) and Direct Examinations made to four sites. The Project activities were located in San Bernardino County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $4,078,492.

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Final Workpaper for Line 235 East Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	235 East
Segment	[redacted]
Inspection Type	[redacted] ILI Tools
Location	San Bernardino County
Class	1, 2
HCA Length	N/A
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	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

SoCalGas

Final Workpaper for Line 235 East Phase 1 [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			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	2,995,526	1,082,966	4,078,492

B. Maps and Images

Figure 1: Satellite Image of Line 235 East Phase 1 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 235 East for Inspection using ILI.
   a. ILI from a permanent launcher site near the [redacted] to a permanent receiver site at [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, four Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of a 19 foot replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs and extension of a vent pipe.
   d. Direct Examination Site #4 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 four Direct Examinations.

Final Workpaper for Line 235 East Phase 1 [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
235 East	58.68 mi	[redacted]	[redacted]	[redacted]	No
235 East	58.68 mi	[redacted]	[redacted]	[redacted]	No
235 East	58.68 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
235 East	1	No	No	40 ft	Replacement	19 ft	Capital
235 East	2	No	No	127 ft	Soft Pad	N/A	Capital
235 East	3	No	No	10 ft	Soft Pad	N/A	Capital
235 East	4	No	No	41 ft	Soft Pad	N/A	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 235 East 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:

SoCalGas

Final Workpaper for Line 235 East Phase 1 [redacted] TIMP Project

1. Site Description: ILI from a permanent Launcher site within SoCalGas property near the [redacted] to a permanent Receiver site within at [redacted].
2. Integrity Threats:
   [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 concluded the pipeline could be inspected without system impacts as long as Line 3000 East remained in service.
7. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
8. Community Impacts: The Project had minimal community impact through early communication with residents near the Launcher site and because the sites were in an area that did not require traffic control.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: The Project Team did not identify any notable environmental concerns at the site.
11. Permit Restrictions: No permits were required for this Project.
12. Land Use: No identified impacts.

13. Traffic Control: The Project Team did not identify any traffic control needs at the site.

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

SoCalGas 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 within the Line 235 East Phase 1 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 19 foot replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs and extension of a vent pipe.
   d. Direct Examination Site #4 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 pipeline could be shut-in without system impacts if repairs were necessary.
4. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
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: The Project Team did not identify any notable environmental concerns at the site.

8. Permit Restrictions: The Project Team obtained a special use permit from the Mojave National Preserve, but the approval time delayed the start of construction at Sites #1 and #4.
9. Land Use: The Project Team obtained Bureau of Land Management permits, [redacted] permits, and a Tribal land permit for Sites #2 and #3.
10. Traffic Control: The Project Team did not identify any traffic control needs at the sites.
11. Schedule Delay: The Project Team began constructions at Sites #2 and #3 first due to schedule delays caused by permitting at Sites #1 and #4

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

The Project Team used the data collected from the Inspection and Direct Examinations during the Post-Assessment step 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, SoCalGas 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	[redacted]	
Inspection Due Date	[redacted]	

Table 5: Construction Timeline – Direct Examination

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

Figure 2: Exposed Pipe Overview

[redacted]

Figure 3: In-line Inspection Tool

[redacted]

Figure 4: Existing Coating Condition at Site #4

[redacted]

SoCalGas

Final Workpaper for Line 235 East Phase 1 [redacted] TIMP Project

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

SoCalGas 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 $4,078,492.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	196,610	132,790	329,400
Contract Costs	1,369,834	184,864	1,554,698
Material	2,567	23,014	25,581
Other Direct Charges	1,005,490	625,475	1,630,965
Total Direct Costs	2,574,501	966,144	3,540,645

Table 7: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	415,643	116,822	532,465
AFUDC	3,979	0	3,979
Property Taxes	1,403	0	1,403
Total Indirect Costs	421,025	116,822	537,847

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,995,526	1,082,966	4,078,492

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 235 East Phase 1 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $4,078,492.

End of Line 235 East Phase 1 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 235 East Phase 2 [redacted] TIMP Project

I. LINE 235 EAST PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 235 East Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 56.5 miles from [redacted]. The pipeline is routed across [redacted] non-High Consequence Area(s) (HCAs) and 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 three sites, of which all three sites contained Safety Related Conditions (SRCs). The Project activities were located in San Bernardino County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $7,922,897.

SoCalGas

Final Workpaper for Line 235 East Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	235 East
Segment	Phase 2 – [redacted]
Inspection Type	[redacted] ILI Tool
Location	Kelso and Newberry Springs
Class	[redacted]
HCA Length	N/A
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 and Replacement
Within HCA	No
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]

SoCalGas

Final Workpaper for Line 235 East Phase 2 [redacted] TIMP Project

Table 1: General Project Information (Continued)

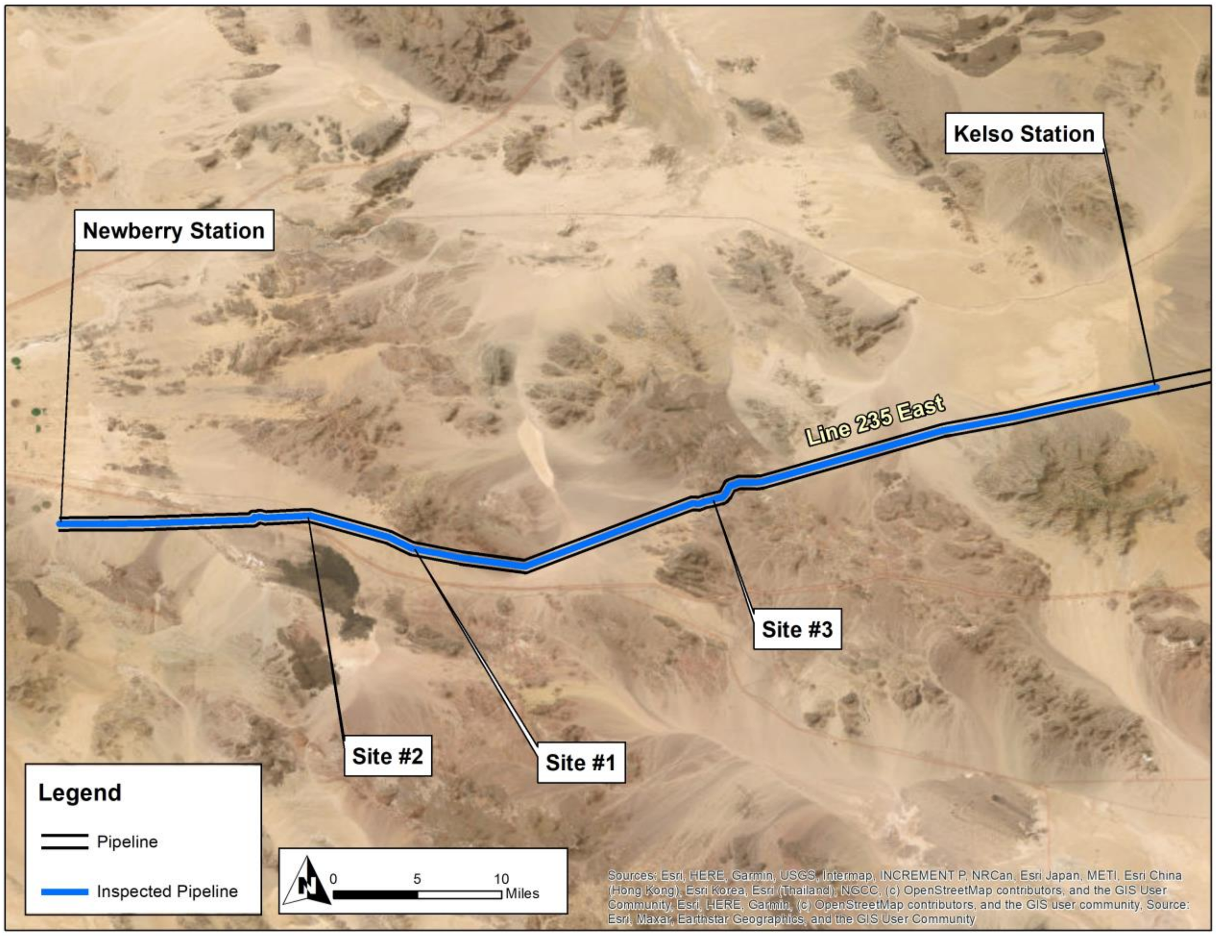
Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad and Replacement		
Within HCA	No		
SRC/IRC	Yes		
SRC/IRC Discovery Date	[redacted]		
Repair Date	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad and Replacement		
Within HCA	No		
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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	3,629,596	4,293,301	7,922,897

SoCalGas

Final Workpaper for Line 235 East Phase 2 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 235 East Phase 2 [redacted] TIMP Project



II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Joran Zeoli, Fidel Galvan, 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 Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 235 East Phase 2 TIMP Project for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] to a permanent receiver site within [redacted].
   b. The Project required the installation of temporary associated piping and a temporary filter separator at the receiver site.
2. Direct Examination – Engineering, Design, and Constructability:
   a. Following the completion of the Inspection using ILI, three Direct Examination sites were identified as SRCs.
      i. Direct Examination Site #1 consisted of soft pad repairs and 22 feet of pipeline replacement.
      ii. Direct Examination Site #2 consisted of soft pad repairs and 76 feet of pipeline replacement.
      iii. Direct Examination Site #3 consisted of soft pad repairs and 23 feet of pipeline replacement.
   b. Following the completion of the Inspection using ILI, additional 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 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
235 East	56.5 mi	[redacted]	[redacted]	[redacted]	No
235 East	56.5 mi	[redacted]	[redacted]	[redacted]	No
235 East	56.5 mi	[redacted]	[redacted]	[redacted]	No
235 East	56.5 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
235 East	1	No	Yes	29 ft	Soft Pad and Replacement	22 ft	Capital
235 East	2	No	Yes	84 ft	Soft Pad and Replacement	76 ft	Capital
235 East	3	No	Yes	33 ft	Soft Pad and Replacement	23 ft	Capital

Final Workpaper for Line 235 East Phase 2 [redacted] TIMP Project

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 235 East Phase 2 [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 Inspection started at a permanent launcher site within [redacted] and ended at a permanent receiver site within [redacted]. The Inspection required temporary installations including associated piping and a filter separator at the receiver site.
2. Integrity Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized the following inline Inspection tools: [redacted] capabilities. [redacted] were also utilized in preparation for the Inspection.

[redacted]

6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which restricted the timeline for the Inspection.
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 required active biological monitoring for escorting vehicles on access roads.
11. Permit Restrictions: The Project required a Special Use Permit from the National Park Service to access the launcher location within Mojave National Preserve.
12. Land Use: The Project Team utilized an existing SoCalGas company facility as a laydown yard during the Inspection.
13. Traffic Control: No identified impacts.

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

SoCalGas 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, three Direct Examination sites were identified as SRCs.
      i. Direct Examination Site #1 consisted of soft pad repairs and 22 feet of pipeline replacement.
      ii. Direct Examination Site #2 consisted of soft pad repairs and 76 feet of pipeline replacement.
      iii. Direct Examination Site #3 consisted of soft pad repairs and 23 feet of pipeline replacement.

   b. Following the completion of the Inspection using ILI, additional Direct Examination sites were identified for validation and will be addressed after 2023, outside the scope of this proceeding.
2. <u>SRC/IRC:</u> Direct Examination Sites #1, #2, and #3 contained SRCs and required expedited project schedules.
3. <u>System Analysis:</u> The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed with capacity constraints.
4. <u>Customer Impacts:</u> No customer impacts.
5. <u>Community Impacts:</u> No identified impacts.
6. <u>Substructures:</u> The Project Team did not identify any existing substructures that impacted the design and engineering.
7. <u>Environmental:</u> The Project required active biological monitoring at the direct examination sites and for escorting vehicles on access roads.
8. <u>Permit Restrictions:</u> No identified impacts.
9. <u>Land Use:</u>
   a. The Project performed all construction activities for the Direct Examinations within SoCalGas's 50 foot Right of Way.
   b. The Project Team provided courtesy notification and communication to the [redacted] for Direct Examination Site #2.
   c. The Project Team utilized an existing SoCalGas company facility as a laydown yard for the Direct Examinations.
   d. The Project Team submitted a Letter of Findings to the Bureau of Land Management and California Department of Fish and Wildlife.
10. <u>Traffic Control:</u> No identified impacts.
11. <u>Constructability:</u>
    a. The Project required extended work hours seven days a week to complete the Direct Examinations in an expedited manner and minimize the schedule for capacity constraints.

b. The Project required an extended replacement length for Direct Examination Site #2 due to locating adequate pipe to complete repairs required.

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, SoCalGas 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	[redacted]
Inspection Due Date	[redacted]

Table 5: Construction Timeline – Direct Examination

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

Table 6: Construction Timeline – SRCs

SRC/IRC Discovery Date – Site #1	[redacted]
Repair Date – Site #1	[redacted]
SRC/IRC Discovery Date – Site #2	[redacted]
Repair Date – Site #2	[redacted]
SRC/IRC Discovery Date – Site #3	[redacted]
Repair Date – Site #3	[redacted]

Figure 2: Launcher Site

[redacted]

Figure 3: Temporary Filter Separator and Receiver Site

[redacted]

Figure 4: Direct Examination Site #1

[redacted]

Figure 5: Direct Examination Site #2

[redacted]

Figure 6: Direct Examination Site #2

[redacted]

Final Workpaper for Line 235 East Phase 2 [redacted] TIMP Project

Figure 7: Direct Examination Site #3

[redacted]

Figure 8: Loading of [redacted] tool at Launcher Site

[redacted]

Figure 9: Temporary Filter Separator at Receiver Site

[redacted]

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

SoCalGas 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 $7,922,897.

Table 7: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	303,725	564,054	867,779
Contract Costs	1,892,745	1,031,416	2,924,161
Material	71,627	50,356	121,983
Other Direct Charges	779,723	2,139,189	2,918,912
Total Direct Costs	3,047,820	3,785,015	6,832,835

Table 8: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	577,217	508,285	1,085,502
AFUDC	1,691	0	1,691
Property Taxes	2,868	0	2,868
Total Indirect Costs	581,776	508,285	1,090,061

Table 9: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	3,629,596	4,293,301	7,922,897

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by prudently executing the Line 235 East Phase 2 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $7,922,897.

End of Line 235 East Phase 2 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

I. LINE 235 WEST PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 235 West Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 46.8 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 1.5 miles within High Consequence Areas (HCAs) and 45.3 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), Direct Examinations made to 23 sites which all contained Safety Related Conditions (SRCs), and Post-Assessment examinations made to 42 sites that contained one SRC. The Direct Examinations and Post-Assessment Examinations resulted in approximately 1.6 miles of non-contiguous pipeline replacement. The Project activities were located in San Bernardino County between Newberry Springs and Victorville. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $55,839,056.

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	235 West
Segment	Phase 1 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	San Bernadino County, Newberry Springs, Victorville
Class	1, 2, 3
HCA Length	1.5 miles
Vintage	Multiple vintages from [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]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	3
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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 Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	4
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	5
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	6
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	7
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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 Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	8
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	9
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	10
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	11
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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 Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	12
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	13
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	14
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	15
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	16
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	17
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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 Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	18
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	19
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	20
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	21
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	22
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start	[redacted]
Construction Completion	[redacted]
Direct Examination Details	
Site	23
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start	[redacted]
Construction Completion	[redacted]

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	1
Examination ID	[redacted]
Remediation Type	Band, Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	2
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	3
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	4
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	5
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	6
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	7
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	8
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	9
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	10
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	11
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	12
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	13
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	14
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	15
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	16
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	17
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	18
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	19
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	20
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	21
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	22
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	23
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	24
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	25
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	26
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	27
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	28
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	29
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	30
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	31
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	32
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	33
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	34
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	35
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	36
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	37
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	38
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details	
Site	39
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	40
Examination ID	[redacted]
Remediation Type	Band, Replacement
Within HCA	No
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 235 West Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Post-Assessment Details			
Site	41		
Examination ID	[redacted]		
Remediation Type	Band, Replacement		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Post-Assessment Details			
Site	42		
Examination ID	N/A		
Remediation Type	Band, Replacement		
Within HCA	No		
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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	53,828,255	2,010,801	55,839,056

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

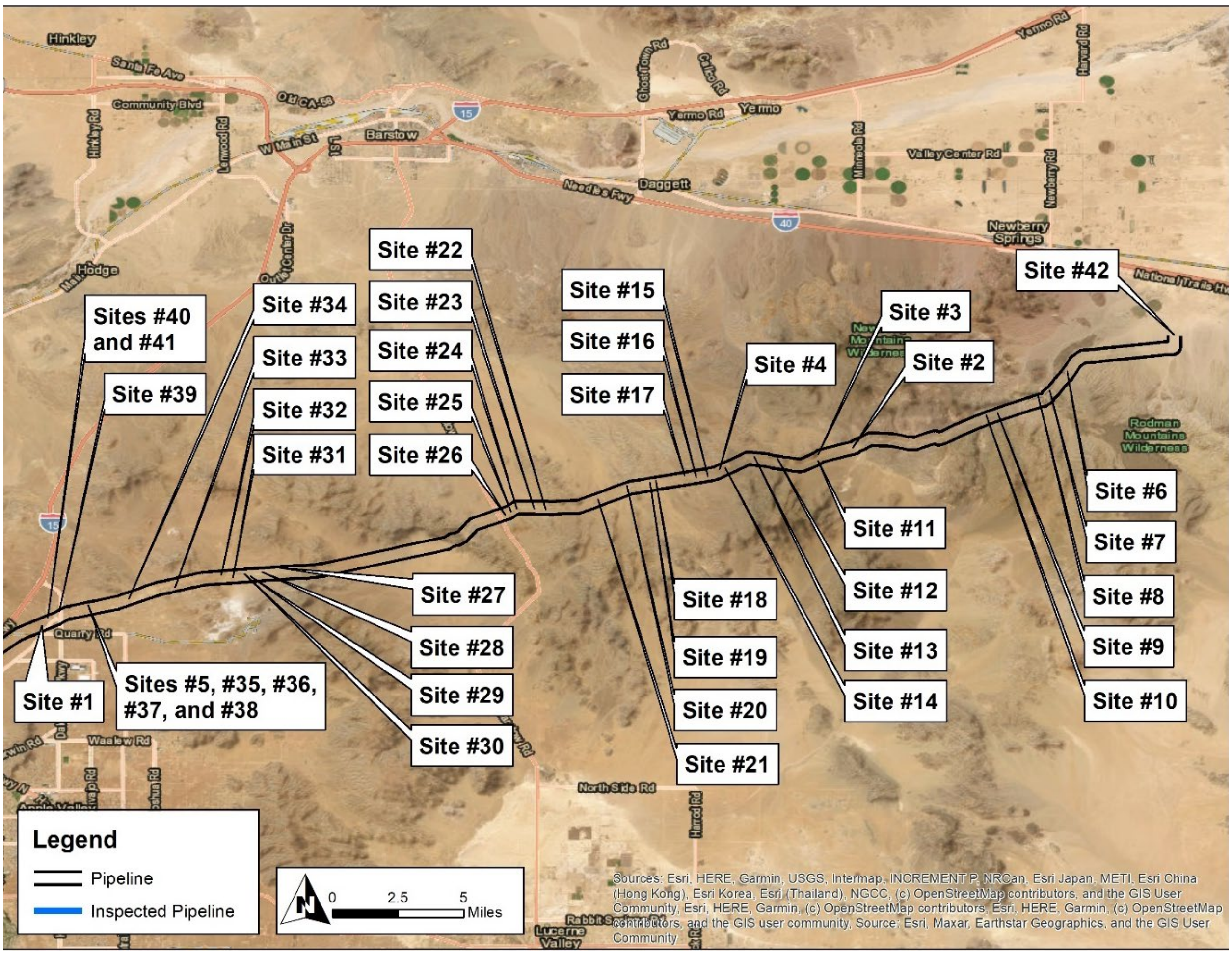
B. Maps and Images

Figure 1: Satellite Image of Line 235 West Phase 1 [redacted] TIMP Project - Inspection and Direct Examination

[redacted]

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Figure 2: Satellite Image of Line 235 West Phase 1 [redacted] TIMP Project – Post-Assessment Examinations



II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspections including Direct Examinations and Post-Assessment.

Prior to initiating execution of the assessment, SoCalGas 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, 3, and 4 below.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 235 West Phase 1 for Inspection using ILI.
   a. ILI from a permanent launcher site at [redacted] to a permanent receiver site at [redacted].
   b. The Project installed a temporary filter separator at the permanent receiver site within [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI, 23 Direct Examination sites were identified for validation.
   a. The Project identified Safety Related Conditions (SRCs) at all 23 Direct Examination Sites.
   b. All 23 Direct Examination Sites consisted of replacement.
   c. The Project Team grouped the Direct Examination Sites into three different segments.
   d. Three additional excavations were required to isolate the pipeline during construction.

3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in 42 additional examinations.
   a. All 42 Post-Assessment Sites consisted of replacement.
   b. Post-Assessment Sites #1, #40, #41, and #42 also included band repairs in addition to the replacement.
   c. Repairs at Post-Assessment Sites #5, #35, #36, #37, and #38 were combined into one extended pipeline replacement segment.
   d. Post-Assessment Site #42 was identified to include an SRC during construction, requiring additional replacement length.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI, 23 Direct Examinations, and 42 Post-Assessment Examinations.

SoCalGas

Final Workpaper for Line 235 West Phase 1 [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
235 West	46.8 mi	[redacted]	[redacted]	[redacted]	No
235 West	46.8 mi	[redacted]	[redacted]	[redacted]	No
235 West	46.8 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
235 West	1	No	Yes	15 ft	Replacement	15 ft	Capital
235 West	2	No	Yes	41 ft	Replacement	41 ft	Capital
235 West	3	No	Yes	42 ft	Replacement	42 ft	Capital
235 West	4	No	Yes	89 ft	Replacement	89 ft	Capital
235 West	5	No	Yes	83 ft	Replacement	83 ft	Capital
235 West	6	No	Yes	82 ft	Replacement	82 ft	Capital
235 West	7	No	Yes	81 ft	Replacement	81 ft	Capital
235 West	8	No	Yes	41 ft	Replacement	41 ft	Capital

Table 3: Final Direct Examination Project Scope (Continued)

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/Remediation Type	Replacement Length	Cost Category
235 West	9	No	Yes	161 ft	Replacement	161 ft	Capital
235 West	10	No	Yes	38 ft	Replacement	38 ft	Capital
235 West	11	No	Yes	63 ft	Replacement	63 ft	Capital
235 West	12	No	Yes	81 ft	Replacement	81 ft	Capital
235 West	13	No	Yes	42 ft	Replacement	42 ft	Capital
235 West	14	No	Yes	89 ft	Replacement	89 ft	Capital
235 West	15	No	Yes	42 ft	Replacement	42 ft	Capital
235 West	16	No	Yes	46 ft	Replacement	46 ft	Capital
235 West	17	No	Yes	233 ft	Replacement	233 ft	Capital
235 West	18	No	Yes	92 ft	Replacement	92 ft	Capital
235 West	19	No	Yes	81 ft	Replacement	81 ft	Capital
235 West	20	No	Yes	46 ft	Replacement	46 ft	Capital
235 West	21	No	Yes	45 ft	Replacement	45 ft	Capital
235 West	22	No	Yes	129 ft	Replacement	129 ft	Capital
235 West	23	No	Yes	74 ft	Replacement	74 ft	Capital

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 4: Final Post-Assessment Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
235 West	1	No	No	50 ft	Replacement	42 ft	Capital
235 West	2	No	No	89 ft	Replacement	86 ft	Capital
235 West	3	No	No	159 ft	Replacement	159 ft	Capital
235 West	4	No	No	82 ft	Replacement	81 ft	Capital
235 West	5 35 36 37 38	No	No	3,604 ft	Replacement	3,602 ft	Capital
235 West	6	No	No	164 ft	Replacement	162 ft	Capital
235 West	7	No	No	37 ft	Replacement	35 ft	Capital
235 West	8	No	No	97 ft	Replacement	96 ft	Capital
235 West	9	No	No	48 ft	Replacement	38 ft	Capital
235 West	10	No	No	47 ft	Replacement	45 ft	Capital
235 West	11	No	No	42 ft	Replacement	40 ft	Capital
235 West	12	No	No	29 ft	Replacement	26 ft	Capital
235 West	13	No	No	45 ft	Replacement	43 ft	Capital

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 4: Final Post-Assessment Project Scope (Continued)

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
235 West	14	No	No	35 ft	Replacement	33 ft	Capital
235 West	15	No	No	48 ft	Replacement	46 ft	Capital
235 West	16	No	No	44 ft	Replacement	42 ft	Capital
235 West	17	No	No	50 ft	Replacement	43 ft	Capital
235 West	18	No	No	46 ft	Replacement	44 ft	Capital
235 West	19	No	No	46 ft	Replacement	43 ft	Capital
235 West	20	No	No	45 ft	Replacement	42 ft	Capital
235 West	21	No	No	44 ft	Replacement	42 ft	Capital
235 West	22	No	No	87 ft	Replacement	82 ft	Capital
235 West	23	No	No	44 ft	Replacement	42 ft	Capital
235 West	24	No	No	44 ft	Replacement	41 ft	Capital
235 West	25	No	No	130 ft	Replacement	126 ft	Capital
235 West	26	No	No	217 ft	Replacement	217 ft	Capital
235 West	27	No	No	68 ft	Replacement	66 ft	Capital

Table 4: Final Post-Assessment Project Scope (Continued)

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
235 West	28	No	No	43 ft	Replacement	37 ft	Capital
235 West	29	No	No	45 ft	Replacement	41 ft	Capital
235 West	30	No	No	44 ft	Replacement	41 ft	Capital
235 West	31	No	No	44 ft	Replacement	34 ft	Capital
235 West	32	No	No	127 ft	Replacement	60 ft	Capital
235 West	33	No	No	85 ft	Replacement	80 ft	Capital
235 West	34	No	No	2,200 ft	Replacement	2,185 ft	Capital
235 West	39	No	No	358 ft	Replacement	352 ft	Capital
235 West	40	No	No	153 ft	Replacement	152 ft	Capital
235 West	41	No	No	128 ft	Replacement	120 ft	Capital
235 West	42	No	Yes	121 ft	Replacement	119 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 235 West 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:

1. Site Description: The Inspection started at a permanent launcher site within [redacted] and ended at a permanent receiver site within [redacted]. The Project installed a filter separator at the receiver site to facilitate the Inspection.
2. HCA Threats: [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 concluded the pipeline could be inspected without system impacts.

[redacted]

7. Customer Impacts: No identified 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 required biological monitors for access to job sites and work vehicle movement.
11. Permit Restrictions: There were no special permits or permit restrictions for this Project.
12. Land Use: No identified impacts.
13. Traffic Control: The Project Team did not identify any traffic control needs at the site.

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

SoCalGas 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 23 Direct Examination Sites selected for validation within the Line 235 West Phase 1 [redacted] TIMP Project.
   a. All 23 Direct Examination Sites consisted of replacement repairs.
2. SRC/IRC: All 23 Direct Examination Sites contained an SRC 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 pipeline could be examined without system impacts.
4. Customer Impacts: The Project Team determined that customer service could be maintained to core and non-core customers by maintaining pipeline system pressure through cross compression and segmented isolation.

5. Community Impacts: The Project had minimal community impact because construction was in areas 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:
   a. The Project Team provided notification to the Bureau of Land Management and California Fish and Wildlife for coverage under SoCalGas programmatic California Desert Conservation Area (CDCA) Biological Opinion and the CDCA Memorandum of Understanding permits[2].
   b. The Project Team obtained approval of a Stormwater Pollution Prevention Plan (SWPPP) and a Fugitive Dust Control Plan from the Mojave Desert AQMD.
   c. The Project Team required multiple biological monitors for each active work crew for access to job sites, work vehicle movement, and active construction and digging.
8. Permit Restrictions: The Project Team obtained a Temporary Right of Entry (TRE) from private landowners for entry to perform repairs and use of a laydown yard.
9. Land Use: A laydown yard on private land required the Project Team to obtain a TRE.
10. Traffic Control: The Project Team obtained approval of traffic control plans for completion of repairs in public roadways.
11. Constructability: The Project Team performed additional excavations at two MLVs to isolate the pipeline.

[2] Various work areas were identified as being in a geographical area addressed by a Biological Opinion for Ongoing Operations and Maintenance Activities on Southern California Gas Company's Pipeline System in the Southern California Deserts (BO) (USFWS, 1995) and California Endangered Species Act 2081 Memorandum of Understanding and Management Authorization (CESA MOU) (California Department of Fish and Wildlife [CDFW], 1997).

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 42 additional examinations that involved preventative and mitigative measures to enhance the overall integrity and safety of the pipeline. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Analysis:
   a. All 42 Post-Assessment Sites consisted of replacement repairs.
   b. Post-Assessment Sites #1, #40, #41, and #42 also included band repairs in addition to the replacement repairs.
   c. Repairs at Post-Assessment Sites #5, #35, #36, #37, and #38 were combined into one extended pipeline replacement segment.
2. SRC / IRC: During construction, the Project Team identified an SRC at the northern isolation at Site #42 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 Post-Assessment Examinations could be inspected without system impacts as long as adjacent pipelines remained in service.
4. Customer Impacts: The Project Team determined that customer service could be maintained to core and non-core customers by performing repair work in multiple segments.
5. Community Impacts: The Project had minimal community impact because the sites were in an area that did not require traffic control.
6. Permit Restrictions: The Project Team obtained a Temporary Right of Entry (TRE) from private landowners for entry to perform repairs and use of a laydown yard.

7. Constructability:
   a. ILI results and cathodic protection analysis identified significant required remediation lengths at Post-Assessment Sites #5, #35, #36, #37, #38 and Post-Assessment Site #34.
   b. The isolation location near [redacted] required an excavation extension to find a suitable location to complete recoating which led to the discovery of an SRC at Site #42. This occurred after the line was operational and required the Project Team to take the line out of service to complete the SRC.
   c. The Project Team rerouted the replacement pipeline at Direct Examination Site #40 to avoid impacting a Joshua tree at the location.
8. Substructures: No identified impacts.
9. Environmental:
   a. The Project required notification to the Bureau of Land Management and California Fish and Wildlife for coverage under SoCalGas programmatic California Desert Conservation Area (CDCA) Biological Opinion and the CDCA Memorandum of Understanding permits[3].
   b. The Project Team required multiple biological monitors for each active work crew for access to job sites, work vehicle movement, and active construction and digging.
   c. The Project Team was limited to slow speeds on dirt roads, adding substantial time to access distant job sites for the work crews. Work hours were extended to keep productivity high with multiple hours of each workday being dedicated to driving and site access.
10. Traffic Control: No identified impacts.

[3] Various work areas were identified as being in a geographical area addressed by a Biological Opinion for Ongoing Operations and Maintenance Activities on Southern California Gas Company's Pipeline System in the Southern California Deserts (BO) (USFWS, 1995) and California Endangered Species Act 2081 Memorandum of Understanding and Management Authorization (CESA MOU) (California Department of Fish and Wildlife [CDFW], 1997).

11. Land Use: The Project Team utilized three separate laydown yards during construction, including private land which required the Project Team obtain Temporary Right of Entry (TRE).
12. Schedule Delay: No identified impacts.
13. Other Identified Risks: The Project Team hired on-site medical teams during construction to ensure the health and safety of work crews while working in isolated desert areas.

III. CONSTRUCTION

A. Construction Contractor Selection

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

B. Construction Schedule

Table 5: Construction Timeline – Inspection

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

Table 6: Construction Timeline – Direct Examination

Mobilization 1: Direct Examination Site #1		
Construction Start Date	[redacted]	
Construction Completion Date	[redacted]	
Mobilization 2: Direct Examination Sites #2 to #23		
Construction Start Date	[redacted]	
Construction Completion Date	[redacted]	

Table 7: Construction Timeline – Post-Assessment

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

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 8: Construction Timeline – SRCs

SRC Discovery Date – Site #1	[redacted]	
Repair Date – Site #1		
SRC Discovery Date – Site #2		
Repair Date – Site #2		
SRC Discovery Date – Site #3		
Repair Date – Site #3		
SRC Discovery Date – Site #4		
Repair Date – Site #4		
SRC Discovery Date – Site #5		
Repair Date – Site #5		
SRC Discovery Date – Site #6		
Repair Date – Site #6		
SRC Discovery Date – Site #7		
Repair Date – Site #7		
SRC Discovery Date – Site #8		
Repair Date – Site #8		
SRC Discovery Date – Site #9		
Repair Date – Site #9		
SRC Discovery Date – Site #10		
Repair Date – Site #10		
SRC Discovery Date – Site #11		
Repair Date – Site #11		
SRC Discovery Date – Site #12		
Repair Date – Site #12		
SRC Discovery Date – Site #13		
Repair Date – Site #13		
SRC Discovery Date – Site #14		
Repair Date – Site #14		
SRC Discovery Date – Site #15		
Repair Date – Site #15		
SRC Discovery Date – Site #16		
Repair Date – Site #16		
SRC Discovery Date – Site #17		
Repair Date – Site #17		
SRC Discovery Date – Site #18		
Repair Date – Site #18		
SRC Discovery Date – Site #19		
Repair Date – Site #19		

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Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Table 8: Construction Timeline – SRCs (Continued)

SRC Discovery Date – Site #20	[redacted]	
Repair Date – Site #20	[redacted]	
SRC Discovery Date – Site #21	[redacted]	
Repair Date – Site #21	[redacted]	
SRC Discovery Date – Site #22	[redacted]	
Repair Date – Site #22	[redacted]	
SRC Discovery Date – Site #23	[redacted]	
Repair Date – Site #23	[redacted]	
SRC Discovery Date – Post-Assessment Site #42	[redacted]	
Repair Date – Post-Assessment Site #42	[redacted]	

Final Workpaper for Line 235 West Phase 1 [redacted] TIMP Project

Figure 3: Post-Assessment Replacement

[redacted]

Figure 4: Post-Assessment Replacement

[redacted]

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

SoCalGas 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 Team was able to combine multiple validation and post-assessment sites due to their close proximity to each other, allowing for increased efficiency in replacement repairs.
2. Land Use: The Project Team utilized SoCalGas owned stations for laydown yards.
3. Construction Execution: The Project Team utilized multiple work crews during construction to more expediently complete all repairs and share resources.

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 $55,839,056.

Table 9: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	1,889,032	260,799	2,149,831
Contract Costs	29,616,331	298,960	29,915,291
Material	1,997,190	85,905	2,083,096
Other Direct Charges	12,068,925	1,164,811	13,233,736
Total Direct Costs	45,571,478	1,810,475	47,381,953

Table 10: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	7,496,770	200,326	7,697,096
AFUDC	625,993	0	625,993
Property Taxes	134,013	0	134,013
Total Indirect Costs	8,256,776	200,326	8,457,102

Table 11: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	53,828,255	2,010,801	55,839,056

[4] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[5] Values may not add to total due to rounding.
[6] Ibid.
[7] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 235 West Phase 1 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $55,839,056.

End of Line 235 West Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 235 WEST PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 235 West Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 71.9 miles from [redacted]. The Project is routed across Class 1, 2 and 3 locations with 48.7 miles within High Consequence Area(s) (HCAs) locations and 23.2 miles within non-HCAs locations. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to ten sites, of which sites three included Immediate Repair Conditions (IRCs). The Project activities were located in unincorporated Los Angeles County and San Bernardino County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $8,715,114.

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Final Workpaper for Line 235 West Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	235 West
Segment	Phase 2 - [redacted]
Inspection Type	[redacted] Tool
Location	Antelope Valley and Santa Clarita
Class	1, 2, 3
HCA Length	48.7 Miles
Vintage	[redacted]
Pipe Diameter	[redacted]
MAOP	Multiple MAOP from [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]
Mitigation/Remediation Type	Soft Pad, Band
Within HCA	Yes
SRC/IRC	Yes
IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion 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."

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Final Workpaper for Line 235 West Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Mitigation/Remediation Type	Soft Pad, Band
Within HCA	Yes
SRC/IRC	Yes
IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Direct Examination Details	
Site	3
Examination ID	[redacted]
Mitigation/Remediation Type	Soft Pad, Band
Within HCA	Yes
SRC/IRC	Yes
IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Direct Examination Details	
Site	4
Examination ID	[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]

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Final Workpaper for Line 235 West Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details	
Site	5
Examination ID	[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]
Direct Examination Details	
Site	6
Examination ID	[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]
Direct Examination Details	
Site	7
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement, Band
Within HCA	No
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 235 West Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details			
Site	8		
Examination ID	[redacted]		
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	9		
Examination ID	[redacted]		
Mitigation/Remediation Type	Replacement, Band		
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	10		
Examination ID	[redacted]		
Mitigation/Remediation Type	Replacement, Band		
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	3,730,427	4,984,687	8,715,114

B. Maps and Images

Figure 1: Satellite Image of Line 235 West Phase 2 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 235 West Phase 2 [redacted] for Inspection using ILI.
   a. ILI from a permanent launcher site at [redacted] County to a permanent receiver site located at [redacted].
   b. The Project required the use of a temporary filter seperator.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, ten Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of soft pad repairs and a band installation.
   b. Direct Examination Site #2 consisted of soft pad repairs and a band installation.
   c. Direct Examination Site #3 consisted of soft pad repairs and a band installation.
   d. Direct Examination Site #4 consisted of a soft pad repair.
   e. Direct Examination Site #5 consisted of a soft pad repair.
   f. Direct Examination Site #6 consisted of a soft pad repair.
   g. Direct Examination Site #7 consisted of a ten foot replacement and a band installation.

h. Direct Examination Site #8 consisted of a soft pad repair.
i. Direct Examination Site #9 consisted of an 86 foot replacement and a band installation.
j. Direct Examination Site #10 consisted of an 85 foot replacement and a band installation.
k. The Project identified three Direct Examination Sites containing IRCs.

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

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
235 West	71.9 miles	[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
235 West	1	Yes	IRC	15 ft	Soft Pad, Band	N/A	Capital
235 West	2	Yes	IRC	15 ft	Soft Pad, Band	N/A	Capital
235 West	3	Yes	IRC	17 ft	Soft Pad, Band	N/A	Capital
235 West	4	Yes	No	44 ft	Soft Pad	N/A	Capital
235 West	5	Yes	No	33 ft	Soft Pad	N/A	O&M
235 West	6	Yes	No	23 ft	Soft Pad	N/A	O&M
235 West	7	No	No	86 ft	Band, Replacement	10 ft	Capital
235 West	8	No	No	50 ft	Soft Pad	N/A	Capital
235 West	9	No	No	98 ft	Band, Replacement	86 ft	Capital
235 West	10	No	No	97 ft	Band, Replacement	85 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 235 West Phase 2 [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. <u>Site Description:</u> The Project Team installed a temporary filter separator at the receiver site at [redacted].

2. HCA Threats:

   [redacted]

3. Pipe Vintage: [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 concluded the pipeline could be inspected without system impacts.
7. Customer Impacts: The Project Team determined that customer service could be maintained to core and non-core customers by utilizing Line 335 as an alternate source of feed if isolation was needed.
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 did not identify any notable environmental concerns.
11. Permit Restrictions: There were no special permits or permit restrictions for the ILI of Line 235 West.

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[2] [redacted]

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

Continuing the planning process for the Line 235 West Phase 2 [redacted] TIMP Project, SoCalGas 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 ten Direct Examination Sites selected for validation within the Line 235 West Phase 2 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad repairs and a band installation.
   b. Direct Examination Site #2 consisted of soft pad repairs and a band installation.
   c. Direct Examination Site #3 consisted of soft pad repairs and a band installation.
   d. Direct Examination Site #4 consisted of a soft pad repair.
   e. Direct Examination Site #5 consisted of a soft pad repair.
   f. Direct Examination Site #6 consisted of a soft pad repair.
   g. Direct Examination Site #7 consisted of a ten foot replacement and a band installation.
   h. Direct Examination Site #8 consisted of a soft pad repair.
   i. Direct Examination Site #9 consisted of an 86 foot replacement and a band installation.
   j. Direct Examination Site #10 consisted of an 85 foot replacement and a band installation.
2. SRC/IRC: Direct Examination of Site #1, Site #2, and Site #3 resulted in IRCs and required expedited project schedules.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate the feasibility of completing the proposed Direct Examinations, which concluded service would need to be maintained through Compressed Natural Gas (CNG) usage. Utilization of Line 335 as an alternate source of feed if isolation was needed.

4. Customer Impacts: The Project Team determined that customer service could be maintained to customers through CNG usage and utilizing Line 335 as an alternate source of feed if isolation was needed.
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 did not identify any notable environmental concerns.
8. Permit Restrictions: The Project Team did not identify any notable permit restrictions.

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, SoCalGas 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		
Insepction Due Date		

Table 5: Construction Timeline – Direct Examination

Mobilization 1: Direct Examination Sites #1, #2, #3		
Construction Start Date	[redacted]	
Construction Completion Date		
Mobilization 2: Direct Examination Sites #4 to #10		
Construction Start Date	[redacted]	
Construction Completion Date		

Table 6: Construction Timeline – IRC

IRC Discovery Date – Site #1	[redacted]	
Repair Date – Site #1		
IRC Discovery Date – Site #2		
Repair Date – Site #2		
IRC Discovery Date – Site #3		
Repair Date – Site #3		

Final Workpaper for Line 235 West Phase 2 [redacted] TIMP Project

Figure 2: ILI Launcher Site at [redacted]

[redacted]

Final Workpaper for Line 235 West Phase 2 [redacted] TIMP Project

Figure 3: Band Repair at Site #3

[redacted]

Figure 3: Repairs Completed at Site #2

[redacted]

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Final Workpaper for Line 235 West Phase 2 [redacted] TIMP Project

C. Commissioning and Site Restoration

Commissioning activities include restoration of the sites, 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

SoCalGas 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 $8,715,114.

Table 9: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	237,756	463,158	700,914
Contract Costs	2,040,756	1,563,806	3,604,562
Material	75,058	88,822	163,880
Other Direct Charges	834,554	2,468,469	3,303,023
Total Direct Costs	3,188,124	4,584,255	7,772,379

Table 10: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	525,387	400,433	925,820
AFUDC	2,603	0	2,603
Property Taxes	14,312	0	14,312
Total Indirect Costs	542,302	400,433	942,735

Table 11: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	3,730,427	4,984,687	8,715,114

[3] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[4] Values may not add to total due to rounding.
[5] Ibid.
[6] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 235 West Phase 2 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $8,715,114.

End of Line 235 West Phase 2 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 247 [redacted] TIMP Project

I. LINE 247 [redacted] TIMP PROJECT

A. Background and Summary

Line 247 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 24 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with six miles within High Consequence Area(s) (HCAs) locations and 18 miles within non-HCAs locations. This Workpaper describes the activities and costs associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI), [redacted] and [redacted] with Indirect Inspections using aboveground surveys, and the Direct Examinations made to five sites, of which sites one contained an Immediate Repair Condition (IRC) and one contained a Safety Related Condition (SRC). The Project activities were located in Santa Barbara County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $21,804,245.

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Final Workpaper for Line 247 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	247
Segment	[redacted]
Inspection Type	[redacted] ILI Tools
Location	Santa Barbara County
Class	1, 2, 3
HCA Length	6 miles
Vintage	Multiple vintages ranging 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]
Inspection Details	
Pipeline	247
Segment	[redacted]
Inspection Type	[redacted] and [redacted] Aboveground Surveys
Location	Santa Barbara County
Class	1, 2, 3
HCA Length	6 miles
Vintage	Multiple vintages ranging from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Indirect Inspection Completion Date	[redacted]

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Final Workpaper for Line 247 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	1
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	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Direct Examination Details	
Site	2
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Band
Within HCA	No
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]

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Final Workpaper for Line 247 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	3
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]
Due Date	[redacted]
Direct Examination Details	
Site	4
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]
Due Date	[redacted]

[redacted]

2 Ibid.

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Final Workpaper for Line 247 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	5		
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]		
Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	6,735,543	15,068,702	21,804,245

[redacted]

B. Maps and Images

Figure 1: Satellite Image of Line 247 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspections and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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, 3, and 4, below.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 247 [redacted] TIMP Project for Inspection using ILI as well as Indirect Inspections using aboveground surveys.
   a. ILI from a temporary launcher site in [redacted] to a permanent receiver site within [redacted].
   b. The Project required temporary installation of a launcher barrel and temporary piping at the launcher site. The Project also required associated piping and a temporary filter separator at the receiver site.
   c. The Project required permanent installation of three [redacted] valves at the receiver site.
   d. Due to previous unsuccessful ILIs for Line 247, the Project Team implemented various assessment methods simultaneously. This included aboveground surveys of approximately 24 miles complete the indirect Inspection step of the four-step assessment process for the [redacted] and [redacted] of Line 247.

2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI as well as Indirect Inspections using aboveground surveys, a total of five Direct Examination sites were identified for validation during the TY 2019 GRC cycle.
   a. Direct Examination Site #1 consisted of soft pad and band repairs.
   b. Direct Examination Site #2 consisted of soft pad and band repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs.
   e. Direct Examination Site #5 consisted of soft pad repairs.
   f. The Project identified one Direct Examination Site containing a SRC and one Direct Examination Site containing an IRC.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the 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, [redacted] and [redacted] with Indirect Inspections using aboveground surveys, and five Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
247	24.2 mi	[redacted]	[redacted]	[redacted]	Yes
247	24.2 mi	[redacted]	[redacted]	[redacted]	Yes
247	24.2 mi	[redacted]	[redacted]	[redacted]	Yes
247	24.2 mi	[redacted]	[redacted]	[redacted]	Yes

Final Workpaper for Line 247 [redacted] TIMP Project

Table 3: Final Indirect Inspection Project Scope – [redacted] Aboveground Survey

Final Project Scope			
Line	Length	Threat Type	Indirect Inspection Survey Type
247	24.5 mi	[redacted]	[redacted]
247	24.5 mi	[redacted]	[redacted]
247	24.5 mi	[redacted]	[redacted]

Table 4: Final Indirect Inspection Project Scope – [redacted] Aboveground Survey

Final Project Scope			
Line	Length	Threat Type	Indirect Inspection Survey Type
247	24 mi	[redacted]	[redacted]

Table 5: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
247	1	Yes	Yes	17 ft	Soft Pad and Band	N/A	Capital
247	2	No	Yes	23 ft	Soft Pad and Band	N/A	Capital
247	3	No	No	16 ft	Soft Pad	N/A	O&M
247	4	No	No	20 ft	Soft Pad	N/A	O&M
247	5	Yes	No	17 ft	Soft Pad	N/A	O&M

Final Workpaper for Line 247 [redacted] TIMP Project

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 247 [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 an ILI from a temporary launcher site in [redacted] to a permanent receiver site within [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages ranging from [redacted].
4. Long Seam Type:
   [redacted]
   c. [redacted].
5. Inspection Tools and Technologies:
   a. The Project utilized [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.

[redacted]

b. The Project required fourteen (14) cleaning runs due to substantial amounts of debris volume that was determined to be hazardous. In addition to the costs for the many cleaning runs conducted to clean the pipeline, there were significant project costs associated with proper handling and disposal of the debris due to its hazardous nature, including vendor costs associated with removing debris from the tools used.

c. The Project required two [redacted] runs to obtain acceptable data due to speed excursions.

d. The Project included additional ILIs that utilized [redacted] capabilities however the runs were partially incorporated into the assessment due to speed excursions.

e. The Project included two additional ILIs that utilized [redacted], however the runs were not incorporated into the assessment due to speed excursions and sensor loss.

f. The primary tools utilized for aboveground surveys were [redacted]

g. The Project halted [redacted] activities after receiving confirmation that a successful [redacted] run was completed. Due the unsuccessful [redacted] tool runs, [redacted] activities were continued to complete the assessment.

6. <u>Inspection Retrofits:</u> The Project required permanent installation of three [redacted] valves at the receiver site.

7. <u>System Analysis:</u> 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. <u>Customer Impacts:</u> No customer impacts.

9. <u>Community Impacts:</u> The Project Team notified various nearby residential locations of project activities and schedules for Indirect Inspections using aboveground surveys.

10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: The Project Team coordinated with environmental staff within [redacted], to obtain Permit Exemptions from the Santa Barbara County Air Pollution Control District for the Inspection using ILI.
12. Permit Restrictions: The Project Team obtained an approved Encroachment Permit from the City of Goleta Department of Public Works for Indirect Inspections using aboveground surveys, requiring the survey contractor to obtain a City of Goleta Business License and Certificate of Liability Insurance.
13. Land Use:
    a. The Project Team utilized existing company facilities as laydown yards during the Inspection using ILI.
    b. The Project Team coordinated with the City of Santa Barbara Department of Public Works to complete survey activities within [redacted]. Coordination efforts included project schedules, access, and escorting within the airport.
14. Traffic Control: The Project Team obtained approved Traffic Control Plans (TCPs) from the City of Goleta for the Indirect Inspections using aboveground surveys.
15. Schedule Delay: No identified impacts.
16. Constructability: This Project included a previous mobilization in 2022 to perform initial ILI runs, with approximately five months of construction activities and four months of partial mobilizations. This was primarily due to extensive review of the ILI data and determination that the data was not of acceptable quality.
17. Other Identified Risks: The Project required a pressure reduction of Line 247 as a remedial measure due to ongoing assessment requirements.

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

SoCalGas 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 a total of five Direct Examination sites identified for validation of the Inspection using ILI and Indirect Inspections using aboveground surveys within the Line 247 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad and band repairs.
   b. Direct Examination Site #2 consisted of soft pad and band repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs.
   e. Direct Examination Site #5 consisted of soft pad repairs.
2. SRC/IRC: Direct Examination Site #1 contained one IRC and Direct Examination Site #2 contained one SRC.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could not be isolated to maintain system capacity. This resulted in the following contingency activities:
   a. Installation of two Pressure Control Fittings (PCF) and a 1,200 foot bypass for Direct Examination Site #1.
   b. Contingency material on-hand including two PCFs and temporary bypass piping for the following Direct Examinations:
      i. 80 foot bypass for Direct Examination Site #3.
      ii. 700 foot bypass for Direct Examination Site #4.
      iii. 1,800 foot bypass for Direct Examination Site #5.
4. Customer Impacts: No customer impacts.

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Final Workpaper for Line 247 [redacted] TIMP Project

5. Community Impacts:
    a. Direct Examination Site #1 was located within [redacted] and included an isolation excavation within [redacted], requiring the Project Team to conduct extensive communication and coordination with the California Department of Parks and Recreation.
    b. The Project Team notified various nearby residential locations of project activities and schedules for Direct Examination Sites #4 and #5.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental:
    a. Direct Examination Site #1 was located in areas inhabited by the federally threatened California red-legged frog and federally endangered and state endangered candidate southern steelhead. This section of the Project required active biological monitors and substantial documentation of work activities.
    b. The Project required an industrial hygienist on-site to evaluate and monitor for mercury during construction activities for Direct Examination Site #1. Respirators with mercury cartridges were required for all personnel in or near the excavation.
    c. Direct Examination Site #2 required active biological and cultural monitoring along with substantial documentation of project work activities.
8. Permit Restrictions: The Project Team obtained approved permits from the following entities:
    a. United States Army Corps of Engineers (USACE) Regional General Permit (RGP) 63 Emergency Permit as well as a Storm Water Pollution Prevention Plan (SWPPP) for Direct Examination Site #1. This permit also required coordination with the following:
        i. US Fish and Wildlife Service.
        ii. National Marine Fisheries Service.
        iii. Central Coast Regional Water Quality Control Board 401 Certification.

b. California Department of Parks and Recreation for Direct Examination Site #1. The permit required the implementation of a Stream Diversion Plan and an Environmental Vegetation Plan that outlined specific site restoration requirements including maintenance of impacted vegetation areas for a minimum of five years.
c. California Department of Fish and Wildlife Emergency Lake or Streambed Alteration Agreement for Direct Examination Site #1.
d. Notification of Emergency Repair and Protection Activities to the Santa Barbara County Planning and Development Department for Direct Examination Sites #1, #4, and #5.
e. Coastal Exemption Approvals from the City of Santa Barbara for Direct Examination Site #3.
f. Encroachment Permit from the California Department of Transportation (DOT) for Direct Examination Site #5.

9. <u>Land Use:</u>
   a. The Project Team obtained a temporary Right of Entry Permit (ROE) from the State of California Department of Parks and Recreation for Direct Examination Site #1.
   b. The Project Team obtained a temporary Right of Entry (TRE) permit from a private landowner for Direct Examination Site #1.
   c. The Project Team obtained a TRE from the City of Santa Barbara for Direct Examination Site #3.
   d. The Project Team obtained a temporary entry permit (TEP) from the County of Santa Barbara for Direct Examination Site #4.
   e. The Project Team obtained a License Agreement from The Regents of the University of California for Direct Examination Site #5.
10. <u>Traffic Control:</u>
   a. County of Santa Barbara for Direct Examination Site #1.
   b. California DOT for Direct Examination Site #5.

11. Schedule Delay: No identified impacts.
12. Constructability:
    a. The Project required additional engineering analysis of reinforcing steel on a concrete support for a buried valve near Direct Examination Site #1.
    b. The Project required additional engineering and structural analysis, review and designs for [redacted] supports.
    c. The Project Team coordinated with the Federal Aviation Administration for Direct Examination Site #3 located within City of [redacted]. The coordination included Aeronautical Studies that determined runway closures were required during construction activities, along with proper light signage and barricades along the runways. Airport Operations teams provided oversight of the work activities within the excavation as well as the laydown yard within the airport.
13. Other Identified Factors: The Project required expedited schedules for Direct Examination Sites #3, #4, and #5 to restore Line 247 to normal operating conditions in preparation for the winter months.

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

During the Post-Assessment step, the Project Team will use the data collected from the Inspections, Indirect Inspections, 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, SoCalGas selected the Construction Contractor that best met the criteria for this Project.

B. Construction Schedule

Table 6: Construction Timeline – Inspection

Mobilization 1		
Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		
Mobilization 2		
Construction Start Date	[redacted]	
Construction Completion Date		
Inspection Due Date		

Table 7: Construction Timeline – Indirect Inspection

Construction Start Date	[redacted]	
Construction Completion Date		

Table 8: 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, #4 and #5		
Construction Start Date	[redacted]	
Construction Completion Date		

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Final Workpaper for Line 247 [redacted] TIMP Project

Table 9: Construction Timeline – SRC and IRC

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

Final Workpaper for Line 247 [redacted] TIMP Project

Figure 2: Launcher Site

[redacted]

Final Workpaper for Line 247 [redacted] TIMP Project

Figure 3: Direct Examination Site #1

[redacted]

Figure 4: Water Diversion Plan for Direct Examination Site #1

Final Workpaper for Line 247 [redacted] TIMP Project

Figure 5: Bypass for Direct Examination Site #5

[redacted]

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

SoCalGas 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. Land Use: The Project Team utilized company facilities as laydown yards for the Inspection.
2. Permit Conditions: The Project Team coordinated with another SoCalGas Project and with the County of Santa Barbara Departments of Public Works to obtained an addendum for an existing Utility Encroachment Permit for Direct Examination Site #4.

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Final Workpaper for Line 247 [redacted] TIMP Project

B. 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 $21,804,245.

Table 10: Actual Direct Costs[6]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	468,203	1,629,646	2,097,848
Contract Costs	3,424,167	5,970,300	9,394,467
Material	805,977	694,948	1,500,925
Other Direct Charges	880,071	5,085,601	5,965,672
Total Direct Costs	5,578,417	13,380,495	18,958,912

Table 11: Actual Indirect Costs[7]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	1,074,792	1,665,127	2,739,918
AFUDC	67,996	21,128	89,124
Property Taxes	14,338	1,953	16,291
Total Indirect Costs	1,157,125	1,688,208	2,845,333

Table 12: Total Costs[8]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	6,735,543	15,068,702	21,804,245

[5] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[6] Values may not add to total due to rounding.
[7] Ibid.
[8] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 247 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 findings of the assessment. The total loaded cost of the Project is $21,804,245.

End of Line 247 [redacted] TIMP Project Final Workpaper

I. LINE 293 [redacted] TIMP PROJECT

A. Background and Summary

Line 293 [redacted] the Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 11.9[1] miles from [redacted], through agricultural land. The pipeline is primarily routed across a [redacted] location with 0.5 miles within High Consequence Area(s) (HCAs) and 11.4 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and Direct Examinations made to ten sites, that included three Safety Related Conditions (SRCs), located in the City of Bakersfield and unincorporated Kern County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $12,587,422.

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Final Workpaper for Line 293 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	293
Segment	[redacted]
Inspection Type	[redacted] ILI Tool
Location	Bakersfield and Kern County
Class	[redacted]
HCA Length	0.5 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]
Mitigation/Remediation Type	Replacement
Within HCA	No
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 Line 293 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details	
Site	2
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
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]
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	4
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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 293 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details	
Site	5
Examination ID	[redacted]
Mitigation/Remediation Type	Soft Pad, Band
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	6
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]

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Final Workpaper for Line 293 [redacted] TIMP Project

Table 1: General Project Information (continued

Direct Examination Details	
Site	7
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	No
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]
Direct Examination Details	
Site	8
Examination ID	[redacted]
Mitigation/Remediation Type	Soft Pad, Replacement
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	9
Examination ID	[redacted]
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]

Final Workpaper for Line 293 [redacted] TIMP Project

Table 1: General Project Information (continued

Direct Examination Details			
Site	10		
Examination ID	[redacted]		
Mitigation/Remediation Type	Replacement		
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	10,330,924	2,256,498	12,587,422

B. Maps and Images

Figure 1: Satellite Image of Line 293 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 typically occur during the Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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. <u>Inspection – Engineering, Design, and Constructability:</u> SoCalGas identified Line 293 [redacted] TIMP Project for Inspection using ILI.
   a. The Inspection was approximately 11.9 miles in length from the launcher site at [redacted] to the receiver site southeast of the [redacted].
2. <u>Direct Examination – Engineering, Design, and Constructability:</u> Following the completion of the Inspection using ILI, ten Direct Examination Sites were identified for validation.
   a. Direct Examination Site #1 was identified as an SRC and consisted of a 46-foot replacement.
   b. Direct Examination Site #2 consisted of a 14-foot replacement.
   c. Direct Examination Site #3 consisted of a soft pad repair.
   d. Direct Examination Site #4 consisted of a 40-foot replacement.
   e. Direct Examination Site #5 consisted of a soft pad repair and band installation.
   f. Direct Examination Site #6 identified as an SRC and consisted of a combined 160-foot replacement utilizing one jack and bore with Site #10.

g. Direct Examination Site #7 was identified as an SRC and consisted of a 40-foot replacement.
h. Direct Examination Site #8 consisted of a 42-foot replacement and soft pad repair.
i. Direct Examination Site #9 consisted of soft pad repair.
j. Direct Examination Site #10 and Site #6 consisted of a combined 160-foot replacement utilizing one jack and bore.
k. The Project Team identified three SRCs.

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 ILI of 11.9 miles of Line 293. This Project Team identified and assessed ten Direct Examination sites.

Table 2: Final Inspection Project Scope - ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
293	11.9 miles	[redacted]	[redacted]	[redacted]	No
293	11.9 miles	[redacted]	[redacted]	[redacted]	No
293	11.9 miles	[redacted]	[redacted]	[redacted]	No
293	11.9 miles	[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
293	1	No	Yes	46 ft	Replacement	46 ft	Capital
293	2	No	No	14 ft	Replacement	14 ft	Capital
293	3	No	No	17 ft	Soft Pad	N/A	O&M
293	4	No	No	40 ft	Replacement	40 ft	Capital
293	5	No	No	18 ft	Soft Pad, Band	N/A	O&M
293	6[2]	No	Yes	80 ft	Replacement	80 ft	Capital
293	7	No	Yes	40 ft	Replacement	40 ft	Capital
293	8	No	No	42 ft	Soft Pad, Replacement	42 ft	Capital
293	9	No	No	24 ft	Soft Pad	N/A	O&M
293	10[3]	No	No	80 ft	Replacement	80 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 293 [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 launcher and receiver sites are both in rural areas.
2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted]

[2] Examination length combined with Site #10.
[3] Examination length combined with Site #6.

4. Long Seam Type: [redacted]
5. Inspection Retrofits: None.
6. Inspection Tools and Technologies: The Project utilized [redacted] capabilities, and an [redacted] tool during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded additional measures are necessary to shut-in the pipeline without customer impacts.
8. Customer Impacts:
    a. The Project Team installed a temporary metering station at a custody transfer point with another natural gas utility.
    b. The Project Team installed a temporary bypass to maintain service to a large customer during the ILI.
    c. The Project Team backfed multiple customers to prevent service disruptions during the Inspection.
9. Community Impacts: The Project Team did not anticipate any notable impacts to the community from this Project.
10. Substructures: The Project Team did not identify any existing substructures that affected the design and engineering of the ILI.
11. Environmental: The Project Team did not identify any notable environmental concerns at the ILI sites.
12. Permit Restrictions: There were no special permits or permit restrictions for the ILI of Line 293.

13. Land Use: The Project Team obtained a temporary workspace area adjacent to the launcher site and a workspace for the installation of the temporary receiver and filter separator.
14. Other Identified Risks: The Project Team encountered heavy debris in the previous ILI which compromised the data quality in certain areas. This caused the team to utilize specialized cleaning tools and a more aggressive cleaning method.

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

Continuing the planning process for the Line 293 [redacted] TIMP Project, SoCalGas 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 ten direct examination sites selected for validation within the Line 293 [redacted] TIMP Project:
      i. Direct Examination Site #1 consisted of a 46 foot replacement.
      ii. Direct Examination Site #2 consisted of a 14 foot replacement.
      iii. Direct Examination Site #3 consisted of soft pad repairs.
      iv. Direct Examination Site #4 consisted of a 40 foot replacement.
      v. Direct Examination Site #5 consisted of soft pad repairs and band installation.
      vi. Direct Examination Site #6 and #10 consisted of a 160 foot replacement using jack and bore.
      vii. Direct Examination Site #7 consisted of a 40 foot replacement.
      viii. Direct Examination Site #8 consisted of a 42 foot replacement and soft pad repairs.
      ix. Direct Examination Site #9 consisted of soft pad repairs.
      x. Direct Examination Site #10 and #6 consisted of a 160 foot replacement using jack and bore.

2. <u>SRC/IRC:</u> Results of the ILI identified three Direct Examination SRCs at Site #1, Site #6, and Site #7.
3. <u>System Analysis:</u> The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
4. <u>Customer Impacts:</u> The Project Team installed a temporary metering station to provide uninterrupted gas service from a separate natural gas utility for the large customer.
5. <u>Community Impacts:</u> No identified issues.
6. <u>Substructures:</u> The Project Team identified water lines within the excavation areas.
7. <u>Environmental:</u> Five of the Direct Examination Sites, including two of the SRCs were located within the [redacted] The area is used as a settling pond and contains several feet of water. The sites could not be addressed until the water was removed and the area dried. The Project Team temporarily isolated and removed from service this portion of pipe, until these direct examinations could be completed.
8. <u>Permit Restrictions:</u> The Project Team obtained an Encroachment Permit from Kern County.
9. <u>Land Use:</u> The Project Team obtained an additional temporary Right of Way (ROW) space within [redacted] due to the existing ROW being 16-feet wide.
10. <u>Traffic Control:</u> No identified issues.
11. <u>Schedule Delays:</u> Five of the Direct Examination Sites located within the [redacted] could not be addressed by the Project Team until water was removed and the area dried, causing significant schedule delays for the Project.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SoCalGas selected the Construction Contractor that best met the assessment approach for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

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

Table 5: Construction Timeline – Direct Examination

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

Table 6: Construction Timeline – SRC

SRC Discovery Date – Site #1	[redacted]	
Repair Date – Site #1	[redacted]	
SRC Discovery Date – Site #6	[redacted]	
Repair Date – Site #6	[redacted]	
SRC Discovery Date – Site #7	[redacted]	
Repair Date – Site #7	[redacted]	

Final Workpaper for Line 293 [redacted] TIMP Project

Figure 2: [redacted] Tool

[redacted]

Final Workpaper for Line 293 [redacted] TIMP Project

Figure 3: Seasonal Flooding across ROW

[redacted]

Figure 4: Water Encountered During Excavation

[redacted]

Figure 5: Direct Examination Site #1 Overview (SRC)

[redacted]

Figure 6: Direct Examination Site #6 Overview (SRC)

[redacted]

Figure 7: Direct Examination Site #7 Overview (SRC)

[redacted]

C. Commissioning and Site Restoration

Commissioning activities include restoration of the sites, 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

SoCalGas 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 $12,587,422.

Table 6: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	663,498	278,765	942,263
Contract Costs	5,846,767	863,414	6,710,180
Material	82,599	18,520	101,119
Other Direct Charges	1,873,483	870,645	2,744,127
Total Direct Costs	8,466,346	2,031,343	10,497,689

Table 7: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	1,509,581	225,155	1,734,736
AFUDC	303,999	0	303,999
Property Taxes	50,998	0	50,998
Total Indirect Costs	1,864,578	225,155	2,089,733

Table 8: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	10,330,924	2,256,498	12,587,422

[4] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[5] Values may not add to total due to rounding.
[6] Ibid.
[7] Values may not add to total due to rounding.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 293 [redacted] TIMP Project. Through this Project, SoCalGas successfully implemented and managed the requirements set forth in 49 CFR 192, Subpart O to achieve the objective to continually identify threats to its pipelines, determine the risk posed by these threats, schedule and track assessments to address threats, conduct an appropriate assessment in a prescribed timeline, collect information about the condition of the pipelines, take actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and Workpaper findings of Line 293 in Bakersfield and Kern County. The total loaded cost of the Project is 12,587,422.

End of Line 293 [redacted] TIMP Project

Final Workpaper

I. LINE 324 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 324 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 35.4 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 3.7 miles within High Consequence Area(s) (HCAs) and 31.7 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 three sites. The Project activities were located in the cities of Santa Clarita, Ventura County, and Los Angeles County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $5,181,358.

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Final Workpaper for Line 324 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	324
Segment	[redacted]
Inspection Type	[redacted] ILI Tool
Location	Ventura County and Los Angeles County
Class	1, 2, 3
HCA Length	3.7 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]
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]

Final Workpaper for Line 324 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
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]		
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	0	5,181,358	5,181,358

B. Maps and Images

Figure 1: Satellite Image of Line 324 Phase 1 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan and Travis Sera (Chapter II), TIMP projects follow a four-step assessment process: Pre-Assessment, Inspection, Direct Examination, and Post Assessment. This Workpaper outlines construction activities during the Assessment process that typically occur during the Inspection including three Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 324 Phase 1 for Inspection using [redacted] ILI.
   a. ILI from a temporary launcher site within [redacted] to a temporary receiver site within [redacted].
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.

Final Workpaper for Line 324 Phase 1 [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
324	35.4 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
324	1	No	No	15 ft	Soft Pad	N/A	O&M
324	2	No	No	20 ft	Soft Pad	N/A	O&M
324	3	No	No	16 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 324 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:

1. Site Description: The ILI included a temporary launcher site at [redacted] and a temporary receiver site at [redacted].
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 utilized a [redacted] with [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 concluded the pipeline could be inspected without system impacts.
7. Customer Impacts: No customer impacts.
8. Community Impacts: The Project had minimal community impact due to the launcher and receiver sites being within company stations.
9. Environmental: No identified impacts.
10. Permit Restrictions: The Project Team obtained a County of Ventura Encroachment Permit.
11. Land Use: The Project Team required a Temporary Right of Entry (TRE) Agreement with a private landowner for additional workspace and parking at the receiver site.
12. Traffic Control: The Project Team required and obtained approved traffic control measures from the County of Ventura that included flaggers, cones, and signage to provide a safe area for truck parking and equipment unloading with a crane set prior to the In-Line Inspection.

SoCalGas

Final Workpaper for Line 324 Phase 1 [redacted] TIMP Project

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

Continuing the planning process for the Line 324 Phase 1 [redacted] TIMP Project, SoCalGas 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 within the Line 324 Phase 1 [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. 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.
3. Customer Impacts: No identified impacts.
4. Community Impacts: No identified impacts.
5. Substructures: No identified impacts.
6. Environmental: The Project Team did not identify any notable environmental concerns at the sites.
7. Permit Restrictions: There were no special permits or permit restrictions for this Project.
8. Land Use: The Project Team required Property Access and Use Agreements with private landowners to access the Direct Examination sites.
9. Traffic Control: No identified impacts.
10. Schedule Delay: The Project Team experienced significant delays to the construction start date while working to obtaining land use agreements. This resulted in the Project Team to work an accelerated schedule in order to complete construction before the winter heating season.

11. Constructability: The Project Team incurred additional cost due to the overtime needed so that the Direct Examinations would be completed before the winter heating season.

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, SoCalGas 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		

SoCalGas

Final Workpaper for Line 324 Phase 1 [redacted] TIMP Project

Figure 2: In-Line Inspection Tool Pre-Run

[redacted]

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

SoCalGas 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 $5,181,358.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	456,590	456,590
Contract Costs	0	2,881,365	2,881,365
Material	0	80,519	80,519
Other Direct Charges	0	1,233,694	1,233,694
Total Direct Costs	0	4,652,168	4,652,168

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	511,791	511,791
AFUDC	0	15,589	15,589
Property Taxes	0	1,810	1,810
Total Indirect Costs	0	529,190	529,190

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	5,181,358	5,181,358

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[3] Values may not add to total due to rounding.
[4] Ibid.
[5] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 324 Phase 1 [redacted] TIMP Project. Through this Project, SoCalGas 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 $5,181,358.

End of Line 324 Phase 1 [redacted] TIMP Project Final Workpaper

SoCalGas

Final Workpaper for Line 324 Phase 2 [redacted] TIMP Project

I. LINE 324 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 324 Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project will assess the covered segments of a [redacted] diameter transmission line that runs approximately 10.9 miles from [redacted], through residential neighborhoods, agricultural land, and commercial areas. The pipeline is routed across Class 1, 2, and 3 locations with 5.8 miles within High Consequence Areas (HCAs) and 5.1 miles within non-HCAs. The costs within this Workpaper include activities that took place during the 2019 General Rate Case cycle which are associated with planning, material procurement, and initial construction activities for the Line 324 Phase 2 [redacted] TIMP Project. This Workpaper describes the activities and costs associated with an Inspection using [redacted] In-Line Inspection (ILI). The Project activities were located in Ventura County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $3,685,780.

SoCalGas

Final Workpaper for Line 324 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	Line 324		
Segment	Phase 2 – [redacted]		
Inspection Type	[redacted] ILI Tool		
Location	Ventura County		
Class	1, 2, 3		
HCA Length	5.8 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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	2,730,262	955,518	3,685,780

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the prepared direct testimony of Jordan Zeoli, Fidel Galvan, and Travis Sera (Chapter II), TIMP projects follow the four-step assessment process: Pre-Assessment, 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, SoCalGas reviewed available information and performed a detailed system analysis to verify the scope of the Project. The scope of this Project is summarized in Table 2 below.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 324 Phase 2 for Inspection using [redacted] ILI.
   a. [redacted] ILI will launch from multiple launcher and receiver sites at various locations along the pipeline alignment, separated into multiple segments for constructability.
   b. The Project Team plans to install new [redacted] to facilitate the Inspection.
   c. The Project Team plans to install In-Line [redacted] ILI tools during the Inspection.
2. Direct Examination – Engineering, Design, and Constructability: The Project Team plans to complete the Direct Examination for the Line 324 Phase 2 [redacted] TIMP Project using a validation spool piece; however, additional Direct Examination sites may also be required for validation. Direct Examinations will be addressed after 2023.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the validation spool piece and any other future Direct Examinations will be used to determine if additional examinations are required.

4. Project Scope: The final project scope of this Workpaper includes the planning, material procurement, and initial construction activities that were completed during the 2023 GRC cycle to facilitate the future Inspection using ILI.

Table 2: Proposed Inspection Project Scope – ILI

Proposed Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
324	7.3 mi	[redacted]	[redacted]	[redacted]	Yes

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 324 Phase 2 [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 will address covered segments using a [redacted] ILI tool as the assessment method. Each segment will include various launcher and receiver configurations along the pipeline route using [redacted] locations and [redacted].
2. HCA Threats:
   [redacted]

[redacted]

Final Workpaper for Line 324 Phase 2 [redacted] TIMP Project

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

   [redacted]
5. Inspection Tools and Technologies: The Project will utilize a [redacted] ILI combination tool with [redacted] technology during the Inspection of the pipeline.
6. Inspection Retrofits: The Project Team procured the necessary material and began excavations at six separate locations along the pipeline alignment during the 2019 GRC period to prepare for the future installation of new [redacted]. These activities are necessary to facilitate the [redacted] ILIs.
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 completed a review of the Pipeline system to evaluate project feasibility, which concluded that a non-core customer will require a partial curtailment during ILI activities.
9. Community Impacts: Traffic impacts and occasional noise during pipeline excavation.
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 the following permits:
    a. City of Oxnard Encroachment Permits for the various [redacted] restricted working hours at multiple locations from 9AM to 3:30PM
    b. Ventura County Encroachment Permits
    c. Caltrans Encroachment Permit

13. Land Use: The Project Team obtained two Temporary Right of Entry agreements (TREs) from private landowners and one Temporary Entry Permit (TEP) from the electric utility company.
14. Traffic Control: Traffic Control measures were site specific and had varying requirements including but not limited to lane closures, barriers, cones, steel plating, traffic signage, and signals.

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

SoCalGas initiated the planning process for the Line 324 Phase 2 [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:

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 any 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.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, SoCalGas 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	[redacted]	
Inspection Due Date	[redacted]	

Final Workpaper for Line 324 Phase 2 [redacted] TIMP Project

Figure 1: [redacted] Excavation

[redacted]

Final Workpaper for Line 324 Phase 2 [redacted] TIMP Project

Figure 2: [redacted] Excavation

[redacted]

C. Commissioning and Site Restoration

Commissioning activities for this Project will 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

SoCalGas 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.

SoCalGas

Final Workpaper for Line 324 Phase 2 [redacted] TIMP Project

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 $3,685,780.

Table 4: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	45,112	165,783	210,895
Contract Costs	772,783	140,118	912,901
Material	1,410,108	7,034	1,417,142
Other Direct Charges	167,429	529,517	696,946
Total Direct Costs	2,395,432	842,452	3,237,884

Table 5: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	301,594	113,066	414,659
AFUDC	29,337	0	29,337
Property Taxes	3,900	0	3,900
Total Indirect Costs	334,830	113,066	447,896

Table 6: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,730,262	955,518	3,685,780

[2] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).

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

[4] Ibid.

[5] Ibid.

V. CONCLUSION

SoCalGas will enhance the integrity of their integrated natural gas system by prudently executing the Line 324 Phase 2 [redacted] TIMP Project. Through this Project, SoCalGas successfully implements and manages the requirements set forth in 49 CFR 192, Subpart O to achieve the objective to continually identify threats to its pipelines determine the risk posed by these threats, schedule and track assessments to address threats, conduct an appropriate assessment in a prescribed timeline, collect information about the condition of the pipelines, take actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and Workpaper findings of Line 324 in the impacted county of Ventura. The total loaded cost of the Project is $3,685,780.

End of Line 324 Phase 2 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 325 Phase 1 [redacted] TIMP Project

I. LINE 325 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 325 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 0.8 miles from [redacted]., through commercial areas. The pipeline is routed across Class 2 and 3 locations with 0.8 miles within High Consequence Area(s) (HCAs) and less than 0.1 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI). This Project was located in the cities of Carson and Long Beach. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $3,223,010.

SoCalGas

Final Workpaper for Line 325 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	325		
Segment	Phase 1 – [redacted]		
Inspection Type	[redacted] ILI Tool		
Location	Carson and Long Beach		
Class	2 and 3		
HCA Length	0.8 miles		
Vintage	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values from [redacted]		
Construction Start Date	[redacted]		
Construction Completion Date			
Final Tool Run Date			
Inspection Due Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,600	3,221,410	3,223,010

Final Workpaper for Line 325 Phase 1 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 325 Phase 1 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspection.

Prior to initiating execution of the assessment, SoCalGas 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. <u>Inspection – Engineering, Design, and Constructability:</u> SoCalGas identified Line 325 Phase 1 [redacted] for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] to a temporary receiver site on [redacted]. overpass.
2. <u>Direct Examination – Engineering, Design, and Constructability:</u> Following the completion of the Inspection using ILI, Direct Examination sites were identified for validation and will be addressed after 2023.
3. <u>Post-Assessment – Engineering, Design, and Constructability:</u> The validation analysis of any future Direct Examinations will be used to determine if additional examinations are required.
4. <u>Final Project Scope:</u> The final project scope of this Workpaper includes Inspections using ILI.

Final Workpaper for Line 325 Phase 1 [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
325	0.8 mi	[redacted]	[redacted]	[redacted]	No

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 325 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 started at a temporary launcher site within [redacted] and ended at a temporary receiver site on [redacted].
2. HCA Threats:
   [redacted]
   b. [redacted]
3. Pipe Vintage: [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 concluded there would need to be one partial curtailment and one full curtailment of non-core customers during the Inspection.
7. Customer Impacts: The Project Team determined that one industrial customer required a partial curtailment, while another industrial customer required a full curtailment. These curtailments were coordinated with the customers' planned maintenance schedules, resulting in limited impacts to their operations.
8. Community Impacts: The Project had minimal community impact because the sites were in an area that did not require traffic control.
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 Carson.
12. Land Use: The Project Team obtained a Temporary Right of Entry (TRE) Agreement with a private landowner which was required for a laydown yard. The laydown yard was located across the street from the Phase 2 receiver site and was shared with the Line 325 Phase 2 Project. A Temporary Entry Permit (TEP) was also required to access the launcher site.
13. Traffic Control: No identified impacts.
14. Schedule Delay: The Project Team mobilized in July 2022, but one customer that was set to be partially curtailed stated that they could not be curtailed during the time period. The ILI was rescheduled to take place in September 2023.
15. Constructability:
    a. There were high voltage transmission lines overhead of the launcher site. These lines impacted construction operations.
    b. The receiver site was located underneath a bridge, which resulted in similar circumstances as the overhead lines at the launcher site.

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

Continuing the planning process for the Line 325 Phase 1 [redacted] TIMP Project, SoCalGas will review Inspection reports, complete various site evaluations, and communicate with project stakeholders. Following the completion of the Inspection 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 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 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, SoCalGas 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	[redacted]	
Inspection Due Date	[redacted]	

Final Workpaper for Line 325 Phase 1 [redacted] TIMP Project

Figure 2: The Inspection Tool.

[redacted]

Figure 3: The Receiver Site

[redacted]

Figure 4: The Launcher Site

[redacted]

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

SoCalGas exercised due diligence in the design, planning, and construction activities for this Project to minimize or avoid costs when prudent to do so. 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. Land Use: The Project Team coordinated sharing of a laydown yard with Line 325 Phase 2 Project.

Final Workpaper for Line 325 Phase 1 [redacted] TIMP Project

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 $3,223,010.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	911	270,021	270,932
Contract Costs	0	1,952,422	1,952,422
Material	0	282,570	282,570
Other Direct Charges	0	317,679	317,679
Total Direct Costs	911	2,822,691	2,823,602

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	630	398,719	399,349
AFUDC	50	0	50
Property Taxes	9	0	9
Total Indirect Costs	689	398,719	399,408

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,600	3,221,410	3,223,010

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 325 Phase 1 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $3,223,010.

End of Line 325 Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 325 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 325 Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 1.3 miles from [redacted]., through commercial areas. The Project also assessed one short segment of [redacted] lateral pipeline associated with Phase 2 of Line 325 using the [redacted] assessment method. The pipeline is routed across Class 1 and 3 locations with 1.1 miles within High Consequence Area(s) (HCAs) locations and 0.2 miles within non-HCAs locations. 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 two sites, located in Carson. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Workpaper is $6,246,506.

SoCalGas

Final Workpaper for Line 325 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	325
Segment	Phase 2 – [redacted]
Inspection Type	[redacted] ILI Tool
Location	Carson
Class	1, 3
HCA Length	1.1 miles
Vintage	Multiple vintages ranging 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	
Line	325LT1
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 Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]

SoCalGas

Final Workpaper for Line 325 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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	$2,802,480	$3,444,026	$6,246,506

B. Maps and Images

Figure 1: Satellite Image of Line 325 Phase 2 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspection and Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 325 Phase 2 [redacted] for Inspection using ILI.
   a. ILI from a temporary launcher site on [redacted] to a temporary receiver site on [redacted].
   b. Two additional filter separators were installed for two customers and a temporary meter was installed for one customer, due to concern for liquids in the line.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, two Direct Examination sites were identified. Direct Examination Site #1 assessed a pipeline segment that could not accommodate an ILI tool and Direct Examination Site #2 was utilized for validation.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 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 ILI and two Direct Examinations.

Final Workpaper for Line 325 Phase 2 [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
325	1.3 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
325 LT1	1	Yes	No	94 ft	Soft Pad	N/A	Capital
325	2	No	No	18 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 325 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. <u>Site Description:</u> The Inspection started at a temporary launcher site on [redacted] and ended at a temporary receiver site on [redacted].

SoCalGas

Final Workpaper for Line 325 Phase 2 [redacted] TIMP Project

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] with [redacted], [redacted] [redacted], and [redacted] capabilities during the Inspection of the pipeline. A [redacted] and [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 resulted in the partial curtailment of two customers.
7. Customer Impacts: The Project Team determined that customer service could be maintained to core and non-core customers by partially curtailing two industrial customers in Carson. This partial curtailment was coordinated with the customers' planned maintenance, resulting in a minor impact to their operations.
8. Community Impacts: Traffic impacts and occasional noise.
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. Encroachment Permit from the City of Carson.
    b. Excavation Permit from the City of Carson.
12. Land Use: The Project Team required and obtained a Temporary Right of Entry (TRE) Agreement with a private landowner for a laydown yard. The laydown yard was located across the street from the receiver site and was shared with the Line 325 Phase 1 Project.

13. Traffic Control: This Project resulted in the temporary closure of the westbound lanes on [redacted] and [redacted].
14. Constructability: The Project required two temporary filter separators for two customers and a temporary meter for one of the customers, due to concern for liquids in the line.

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

Continuing the planning process for the Line 325 Phase 2 [redacted] TIMP Project, SoCalGas 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 was one [redacted] Site selected to assess pipeline segments that could not accommodate an ILI tool within the Line 325 Phase 2 Carson TIMP Project.
      i. Direct Examination Site #1 consisted of soft pad repairs.
      ii. The Project Team completed this Direct Examination immediately following the Inspection Phase of the project.
   b. There was one Direct Examination Site selected for validation of the ILI within the Line 325 Phase 2 Carson TIMP Project.
      i. Direct Examination Site #2 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: The Project Team did not identify any anticipated service disruptions to customers.
5. Community Impacts: Traffic impacts and occasional noise.

6. Substructures: The Project Team encountered concrete above the pipeline for Direct Examination Site #1. This required the Project Team to jackhammer through the concrete to reach the pipeline.
7. Environmental: For Direct Examination Site #1, the Project Team encountered significantly contaminated soil that required the field crews to get Hazardous Waste Operations and Emergency Response (HAZWOPER) training and to utilize respirators during excavation.
8. Permit Restrictions: The Project Team obtained the following permits:
   a. Excavation Permit from the City of Carson for Direct Examination Site #1.
   b. Excavation Permit from the City of Carson for Direct Examination Site #2.
9. Land Use:
   a. The Project Team shared the same laydown yard as the Inspection for Direct Examination Site #1.
   b. The Project Team utilized City of Carson property under the [redacted] overpass as its laydown yard for Direct Examination Site #2.
10. Traffic Control: The Project Team required traffic control that included the lane closest to the excavation to be closed off during working hours on [redacted] for Direct Examination Sites #1 and #2.
11. Schedule Delay: The Project encountered delays due to contaminated soil, heavy rain, and concrete around the pipeline for 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, SoCalGas 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 #1		
Construction Start Date	[redacted]	
Construction Completion Date		
Mobilization 2: Direct Examination Site #2		
Construction Start Date	[redacted]	
Construction Completion Date		

Final Workpaper for Line 325 Phase 2 [redacted] TIMP Project

Figure 2: Additional Temporary Filter Separator Site

[redacted]

Final Workpaper for Line 325 Phase 2 [redacted] TIMP Project

Figure 3: Additional Temporary Filter Separator Site

[redacted]

Figure 4: Direct Examination Site #1 Excavation

[redacted]

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

SoCalGas 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. Land Use: The Project Team coordinated sharing of a laydown yard with Line 325 Phase 1 Project.

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Final Workpaper for Line 325 Phase 2 [redacted] TIMP Project

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 $6,246,506.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	126,121	343,752	469,873
Contract Costs	1,864,276	1,953,499	3,817,775
Material	30,954	221,547	252,501
Other Direct Charges	327,671	484,846	812,517
Total Direct Costs	2,349,022	3,003,643	5,352,665

Table 7: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	446,095	440,383	886,478
AFUDC	5,151	0	5,151
Property Taxes	2,213	0	2,213
Total Indirect Costs	453,459	440,383	893,841

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,802,480	3,444,026	6,246,506

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 325 Phase 2 [redacted] TIMP Project. Through this Project, SoCalGas successfully implemented and managed the requirements set forth in 49 CFR Part 192, Subpart O, to achieve the objective to continually identify threats to its pipelines, determine the risk posed by these threats, schedule and track assessments to address threats, conduct an appropriate assessment in a prescribed timeline, collect information about the condition of the pipelines, take actions to minimize applicable threats and integrity concerns to reduce the risk of a pipeline failure, and Workpaper findings of Line 325 in the City of Carson. The total loaded cost of the Project is $6,246,506.

End of Line 325 Phase 2 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 335 [redacted] TIMP Project

I. LINE 335 [redacted] TIMP PROJECT

A. Background and Summary

Line 335 [redacted] Transmission Integrity Management Program (TIMP) Project assessed approximately 65 miles of predominantly [redacted] diameter transmission line from [redacted], through residential neighborhoods, agricultural land, and commercial areas. The pipeline is routed across Class 1, 2, and 3 locations with 26 miles within High Consequence Area(s) (HCAs) and 39 miles within non-HCAs. This Workpaper describes the activities and costs associated with Direct Examinations made to four sites as well as pipeline retrofits and new facility installations to facilitate future TIMP Inspections. The Project activities were located in the cities of Adelanto, Palmdale, Agua Dulce, Llano and Santa Clarita. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $3,080,651.

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Final Workpaper for Line 335 [redacted] TIMP Project

Table 1: General Project Information

Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	No Repair
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	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	No Repair
Within HCA	No
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 335 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details			
Site	4		
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]		
Station Retrofit Details			
Pipeline	335		
Site	[redacted]		
Location	Adelanto		
Class	3		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	2,422,760	657,891	3,080,651

Final Workpaper for Line 335 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 335 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Direct Examinations and Station Retrofits.

Prior to initiating execution of the assessment, SoCalGas 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. <u>Inspection – Engineering, Design, and Constructability:</u> SoCalGas identified Line 335 [redacted] TIMP Project for Inspection using In-Line Inspection (ILI), activities related to the ILI were completed for this Project before the TY 2019 General Rate Case (GRC) cycle.
2. <u>Direct Examination – Engineering, Design, and Constructability:</u> Following the completion of the Inspection using ILI, four Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of no repairs.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of no repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs.
3. <u>Post-Assessment – Engineering, Design, and Constructability:</u> The validation analysis of the Direct Examinations following the Inspection resulted in no additional examinations.

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Final Workpaper for Line 335 [redacted] TIMP Project

4. Station Retrofits – Engineering, Design, and Constructability: SoCalGas completed permanent pipeline retrofits and new facility installations to facilitate future assessments of Line 335. The retrofit installations included the following:
   a. Installation of a permanent [redacted] launcher for Line 335 within [redacted], including a launcher barrel and 149 feet of associated piping as well as 32 feet of [redacted] mainline piping.
5. Final Project Scope: The final project scope of this Workpaper includes four Direct Examinations and Station Retrofits.

Table 2: Final Direct Examination Project Scope

Final Project Scope						
Line	Site	Within HCA	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
335	1	No	10 ft	No Repair	N/A	O&M
335	2	Yes	19 ft	No Repair	N/A	O&M
335	3	No	16 ft	No Repair	N/A	O&M
335	4	No	35 ft	Soft Pad	N/A	O&M

Table 3: Final Project Scope – Station Retrofits

Final Project Scope				
Line	Pipe Function	Pipe Diameter	Installation Length	Cost Category
335	Launcher	[redacted]	N/A	Capital
	Mainline Piping	[redacted]	32 ft	Capital
	Associated Piping	[redacted]	149 ft	Capital

Final Workpaper for Line 335 [redacted] TIMP Project

B. Engineering, Design, and Planning Factors – Inspection

SoCalGas completed the Inspection for the Line 335 [redacted] TIMP Project before the TY 2019 GRC cycle.

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

Continuing the planning process for the Line 335 [redacted] TIMP Project, SoCalGas 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 within the Line 335 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of no repairs.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of no repairs.
   d. Direct Examination Site #4 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 determined Direct Examination Sites #1, #3, and #4 were located within habitat areas for Mohave ground squirrels and desert tortoises. The Project required active biological monitoring throughout the duration of the Direct Examinations at these sites.

8. Permit Restrictions: The Project Team obtained a Los Angeles Road Permit for Direct Examination Site #4.
9. Land Use: The Project Team obtained Temporary Right of Entry (TRE) agreements from private landowners for Direct Examination Sites #2 and #3.
10. Traffic Control: No identified impacts.
11. Constructability: No identified impacts.
12. Other Identified Risks: No identified impacts.

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.

E. Engineering, Design, and Constructability Factors – Station Retrofits

SoCalGas executed additional installations of permanent Inspection assemblies to facilitate future Inspections for Line 335. Key factors that influenced the engineering and design of the installations are as follows:

1. Site Description:
   a. The Project required replacement of the existing launcher site within [redacted] as it was deemed inadequate for the Inspection tools required for Line 335.

   b. Permanent launcher installations were in progress for this Project prior to the Inspection using ILI. Due to significant material delays, installations were completed in [redacted].

2. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the permanent launcher installation could be completed without significant system impacts.
3. Customer Impacts: No customer impacts.
4. Community Impacts: No identified impacts.
5. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
6. Environmental:
   a. [redacted] is a primary desert tortoise habitat. Due to existing paved public roadway, no impact was anticipated for the Project as long as all project activities remained within [redacted].
   b. During construction activities, nesting birds were observed near the Project site, including burrowing owls. The Project Team conducted active monitoring throughout the remaining project duration.
7. Constructability: No identified impacts.
8. Permit Restrictions: No identified impacts.
9. Land Use: The Project Team utilized [redacted] as a laydown yard.
10. Traffic Control: No identified impacts.

III. CONSTRUCTION

A. Construction Contractor Selection

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

B. Construction Schedule

Table 4: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Table 5: Construction Timeline – Station Retrofits

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Existing Launcher at [redacted]

[redacted]

Final Workpaper for Line 335 [redacted] TIMP Project

Figure 3: New Launcher at [redacted]

[redacted]

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Figure 4: Direct Examination Site #2

[redacted]

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

SoCalGas exercised due diligence in 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. Land Use: The Project Team utilized SoCalGas-owned [redacted] and [redacted] as laydown yards, avoiding additional costs for laydown yards.

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Final Workpaper for Line 335 [redacted] TIMP Project

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 $3,080,651.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	287,533	58,753	346,286
Contract Costs	1,093,171	387,954	1,481,125
Material	258,458	572	259,030
Other Direct Charges	349,911	145,850	495,761
Total Direct Costs	1,989,073	593,129	2,582,202

Table 7: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	422,956	64,762	487,718
AFUDC	4,394	0	4,394
Property Taxes	6,337	0	6,337
Total Indirect Costs	433,687	64,762	498,449

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,422,760	657,891	3,080,651

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 335 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $3,080,651.

End of Line 335 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 404 Phase 1 [redacted] TIMP Project

I. LINE 404 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 404 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 12.5 miles from [redacted] near Saticoy, through residential neighborhoods, agricultural land, and undeveloped areas. The pipeline is routed across Class 1 and 3 locations with 9.5 miles within High Consequence Area(s) (HCAs) and 3.0 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 the cities of Ventura and Saticoy. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $6,586,547.

Final Workpaper for Line 404 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	404
Segment	Phase 1 – [redacted]
Assessment Method	[redacted] Tools
Location	Ventura, Saticoy
Class	1, 3
HCA Length	9.5 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]

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Final Workpaper for Line 404 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	1		
Examination ID	[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]		
Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Mitigation/Remediation Type	Band, Soft Pad		
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]		
Mitigation/Remediation Type	Replacement, 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	3,116,765	3,469,783	6,586,547

Final Workpaper for Line 404 Phase 1 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 404 Phase 1 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Inspection including Direct Examinations.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 404 Phase 1 [redacted] for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] to a temporary receiver site within [redacted].
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 Band and Soft Pad repairs.
   c. Direct Examination Site #3 consisted of Replacement and 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 an ILI and three Direct Examinations.

Final Workpaper for Line 404 Phase 1 [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
404	12.5 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
404	1	Yes	No	38 ft	Soft Pad	N/A	O&M
404	2	Yes	No	25 ft	Band, Soft Pad	N/A	Capital
404	3	No	No	34 ft	Replacement, Soft Pad	28 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 404 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:

[redacted]

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Final Workpaper for Line 404 Phase 1 [redacted] TIMP Project

1. Site Description: ILI from a temporary launcher site within [redacted] to a temporary receiver site within [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages from [redacted].
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies:
   a. The Project utilized a [redacted] with [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
   b. The Project required two additional ILIs due to speed excursion issues that occurred during the first two Inspections.

[redacted]

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 as long as the adjacent Line 406 remained in service.
7. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
8. Community Impacts: The Project had minimal community impact because the sites were in an area that did not require traffic control.
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 acquired a Temporary Right of Entry (TRE) for additional workspace at the receiver site.
12. Land Use: No identified impacts.
13. Traffic Control: The Project Team did not identify any traffic control needs at the site.
14. Schedule Delay: The Project Team needed to run the tool through the pipeline two additional times due to failed Inspection results, causing a delay to the schedule.

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

SoCalGas 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 within the Line 404 Phase 1 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of Soft Pad repairs.
   b. Direct Examination Site #2 consisted of Band and Soft Pad repairs.
   c. Direct Examination Site #3 consisted of Replacement and 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 pipeline could be inspected without system impacts as long as the adjacent Line 406 remained in service.
4. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
5. Community Impacts: Traffic impacts and occasional noise.
6. Substructures: The Project Team identified an existing sewer line in the City of Ventura in the area of Direct Examination Sites #1 and #2. During construction, the Project Team determined that the sewer line needed to be temporarily relocated to complete the Direct Examination work.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained a permit from the City of Ventura for Direct Examination Sites #1 and #2.
9. Land Use: No identified impacts.
10. Traffic Control: Traffic control was required for Direct Examination Sites #1 and #2.
11. Schedule Delay: The Project experienced the following delays:
    a. Direct Examination Sites #1 and #2 required a temporary sewer line relocation causing a delay to the original schedule.
    b. An exposed span was located at Direct Examination Site #3. Engineering analysis and structural design drawings were required due to erosion increasing the total unsupported span length, delaying the start of construction.
12. Constructability: Direct Examination Site #3 exposed a wrinkle bend for validation. Due to the close proximity of the wrinkle bend to an exposed span length in mountainous terrain, the Project Team was required to replace that segment of the pipeline.

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, SoCalGas 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 Site #3		
Construction Start Date	[redacted]	
Construction Completion Date		

Figure 3: ILI Tool Before Inspection Run

[redacted]

Figure 4: ILI Tool After Completion of Inspection Run

[redacted]

Figure 5: Exposed Pipeline for Examination

[redacted]

Figure 6: Exposed Pipeline Span

[redacted]

Figure 7: Direct Examination Site #2 Overview

[redacted]

Figure 8: Direct Exmination Site #3 Overview

[redacted]

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

SoCalGas 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 avoided the need for potential service disruption by scheduling work to coincide with a Pre planned customer outage.
2. Materials: The Project materials used during Inspection were retained for use in any potential repairs.
3. Land Use: The Project Team utilized a shared laydown yard with other SoCalGas projects.

B. Actual Costs[6]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $6,586,547.

Table 6: Actual Direct Costs[7]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	156,697	488,534	645,231
Contract Costs	2,110,506	1,616,287	3,726,793
Material	41,853	118,636	160,489
Other Direct Charges	298,582	778,590	1,077,172
Total Direct Costs	2,607,638	3,002,047	5,609,685

Table 7: Actual Indirect Costs[8]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	487,320	465,656	952,975
AFUDC	16,222	2,081	18,303
Property Taxes	5,585	0	5,585
Total Indirect Costs	509,126	467,736	976,863

Table 8: Total Costs[9]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	3,116,765	3,469,783	6,586,547

[6] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[7] Values may not add to total due to rounding.
[8] Ibid.
[9] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 404 Phase 1 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 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 $6,586,437.

End of Line 404 Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 404 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 404 Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 34.6 miles from [redacted], through residential neighborhoods, commercial areas, rural and undeveloped lands. The pipeline is routed across Class 1, 3, 4 locations with 20.0 miles within High Consequence Area(s) (HCAs) and 14.6 miles within non-HCAs. This Workpaper describes the activities and costs associated with Post-Assessment examinations made to 19 sites. The activities were located in the cities of Somis, Thousands Oaks, Woodland Hills, Tarzana, Encino, and Sherman Oaks. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $7,991,812.

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Final Workpaper for Line 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Post-Assessment Details	
Site	1
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	2
Examination ID	[redacted]
Remediation Type	Band
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 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	3
Examination ID	[redacted]
Remediation Type	Band
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	4
Examination ID	[redacted]
Remediaion Type	Band
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 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	5
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	6
Examination ID	[redacted]
Remediation Type	Band
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	7
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	8
Examination ID	[redacted]
Remediation Type	Band
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 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	9
Examination ID	[redacted]
Remediation Type	Band
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	10
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	No
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 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	11
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	12
Examination ID	[redacted]
Remediation Type	Replacement
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 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	13
Examination ID	[redacted]
Remediation Type	Band
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	14
Examination ID	[redacted]
Remediation Type	Replacement
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 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	15
Examination ID	[redacted]
Remediation Type	Band
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	16
Examination ID	[redacted]
Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

Table 1: General Project Information (continued)

Post-Assessment Details	
Site	17
Examination ID	[redacted]
Remediation Type	Band
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Post-Assessment Details	
Site	18
Examination ID	[redacted]
Remediation Type	Band
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

SoCalGas

Final Workpaper for Line 404 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (continued)

Post-Assessment Details			
Site	19		
Examination ID	[redacted]		
Remediation Type	Band		
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	7,991,812	0	7,991,812

B. Maps and Images

Figure 1: Satellite Image of Line 404 Phase 2 [redacted] TIMP Project

[redacted]

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the Prepared Direct Testimony of Jordan Zeoli, Fidel Galvan, 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 Post-Assessment.

Prior to initiating execution of the assessment, SoCalGas 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: SoCalGas identified Line 404 Phase 2 [redacted] TIMP Project for Inspection using In-Line Inspection (ILI), activities related to execution of the ILI were completed for this Project before the TY 2019 General Rate Case (GRC) cycle.
   a. The previous Inspection assessed approximately 35 miles from [redacted]
2. Direct Examination – Engineering, Design, and Constructabilty: Following the completion of the Inspection using ILI, four Direct Examination sites were identified for validation. Activities for the Direct Examinations were completed before the TY 2019 GRC cycle.
3. Post-Assessment - Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in 19 additional examinations.
   a. Post-Assessment Sites #1, #2, #4, #5, #7, #8, #10, #11, #12, #14, and #16 consisted of pipe replacements.
   b. Post-Assessment Sites #3, #6, #9, #13, #15, #17, #18, and #19 consisted of band repairs.

4. Final Project Scope: The final project scope of this Workpaper includes19 Post-Assessment examinations.

Table 2: Final Post-Assessment Project Scope

Final Project Scope							
Line	Sit e	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
404	1	No	No	40 ft	Replacement	35 ft	Capital
404	2	Yes	No	16 ft	Replacement	9 ft	Capital
404	3	Yes	No	12 ft	Band	N/A	Capital
404	4	Yes	No	53 ft	Replacement	23 ft	Capital
404	5	Yes	No	17 ft	Replacement	9 ft	Capital
404	6	Yes	No	7 ft	Band	N/A	Capital
404	7	Yes	No	30 ft	Replacement	22 ft	Capital
404	8	Yes	No	10 ft	Replacement	5 ft	Capital
404	9	Yes	No	2 ft	Band	N/A	Capital
404	10	No	No	52 ft	Replacement	43 ft	Capital
404	11	Yes	No	21 ft	Replacement	13 ft	Capital
404	12	Yes	No	25 ft	Replacement	14 ft	Capital
404	13	Yes	No	4 ft	Band	N/A	Capital
404	14	Yes	No	53 ft	Replacement	49 ft	Capital

Table 2: Final Post-Assessment Project Scope (Continued)

	Final Project Scope						
Line	Site	Within HCA	SRC/IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
404	15	Yes	No	6 ft	Band	N/A	Capital
404	16	Yes	No	58 ft	Replacement	52 ft	Capital
404	17	Yes	No	12 ft	Band	N/A	Capital
404	18	Yes	No	11 ft	Band	N/A	Capital
404	19	Yes	No	6 ft	Band	N/A	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas completed the Inspection for the Line 404 Phase 2 [redacted] TIMP Project before the TY 2019 GRC cycle.

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

SoCalGas completed the Direct Examinations for the Line 404 Phase 2 [redacted] Project before the TY 2019 GRC cycle.

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 19 additional examinations to enhance the overall integrity and safety of the pipeline. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Analysis:
   a. Post-Assessment Sites #1, #2, #4, #5, #7, #8, #10, #11, #12, #14, and #16 consisted of pipe replacements.
   b. Post-Assessment Sites #3, #6, #9, #13, #15, #17, #18, and #19 consisted of band repairs.
2. SRC / IRC: There were no Safety Related Conditions (SRCs) or Immediate Repair Conditions (IRCs) during Post-Assessment.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded in a proposed isolation plan that separated the remediation work into six groups. This allowed for smaller isolation sections between mainline valves (MLV) and the ability to maintain service to customers.
4. Customer Impacts: No customer impacts.
5. Community Impacts: Traffic impacts and occasional noise.
6. Substructures: The Project Team did not identify any existing substructures that impacted the engineering and design for the Project.
7. Environmental: The Project Team obtained approval from the California Department of Fish and Wildlife for work in public areas.
8. Permit Restrictions:
   a. The Project Team obtained permits for Peak Hour Exemptions and a Noise Variance from the City of Los Angeles and Los Angeles County.
   b. The Project Team obtained a Letter of No Objection from the U.S. Army Corp of Engineers for Post-Assessment Sites #4, #5, #7, #8, #15, and #18.
9. Land Use: The Project Team obtained Temporary Right of Entry (TRE) approvals from the City of Los Angeles and Los Angeles County.

10. <u>Traffic Control:</u> The Project Team obtained approval of Traffic Control plans from the City of Los Angeles for Post-Assessment Sites #2, #3, #9, #13, #14, #17, and #19.

III. CONSTRUCTION

A. Construction Contractor Selection

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

B. Construction Schedule

Table 3: Construction Timeline – Post-Assessment

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

Figure 2: Excavation and Shoring at Site #10

[redacted]

Final Workpaper for Line 404 Phase 2 [redacted] TIMP Project

Figure 3: Wrinkle Bends Removed at Site #10

[redacted]

Figure 4: Corrosion on Pipeline at Site #19 before Repair

[redacted]

Figure 5: Direct Examination Site #2 Overview (Replacement)

[redacted]

Final Workpaper for Line 404 Phase 2 [redacted] TIMP Project

Figure 6: Direct Examination Site #4 Overview (Replacement)

[redacted]

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

SoCalGas 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 shared laydown yard costs with other SoCalGas projects.
2. Construction Execution: The Project Team performed the remediation work in six separate groups, allowing smaller isolation sections and maintaining customer service.

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 $7,991,812.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	896,652	0	896,652
Contract Costs	4,333,830	0	4,333,830
Material	88,437	0	88,437
Other Direct Charges	1,200,271	0	1,200,271
Total Direct Costs	6,519,190	0	6,519,190

Table 5: Actual Indirect and Total Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	1,406,468	0	1,406,468
AFUDC	52,160	0	52,160
Property Taxes	13,994	0	13,994
Total Indirect Costs	1,472,621	0	1,472,621

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	7,991,812	0	7,991,812

[1] These are the total project costs incurred between January 1, 2019, and December 31, 2023. Only direct costs and vacation and sick contribute to the TIMPBA revenue requirement that is presented in the Prepared Direct Testimony of Rae Marie Yu (Chapter III).
[2] Values may not add to total due to rounding.
[3] Ibid.
[4] Ibid.

V. CONCLUSION

SoCalGas enhanced the integrity of its natural gas system by executing the Line 404 Phase 2 [redacted] TIMP Project. Through this Project, SoCalGas implemented and managed the requirements set forth in 49 CFR Part 192, Subpart O, including the continual identification of threats to its pipelines in HCAs, 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 $7,991,812.

End of Line 404 Phase 2 [redacted] TIMP Project Final Workpaper

BEFORE THE PUBLIC UTILITIES
COMMISSION OF THE STATE OF CALIFORNIA

DECLARATION OF TRAVIS T. SERA
REGARDING CONFIDENTIALITY OF CERTAIN DOCUMENTS
PURSUANT TO D.21-09-020

I, Travis T. Sera, do declare as follows:

1. I am the Director of Integrity Management for Southern California Gas Company (SoCalGas). I have been delegated authority to sign this declaration by Amy Kitson, Vice President of Gas Engineering and System Integrity for SoCalGas. I have reviewed the confidential information included within SoCalGas-02-WP Amended Workpapers Supporting the Prepared Direct Testimony of Jordan A. Zeoli, Fidel Galvan, and Travis T. Sera (Technical – Project Execution and Management) ("TIMP Amended 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 Amended 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 5th day of September, 2025 at Los Angeles, California.

Travis T. Sera
Director of Integrity Management
Southern California Gas Company

ATTACHMENT A

SoCalGas Request for Confidentiality on the following Protected Information in its Amended Transmission Integrity Management Program (TIMP) Workpapers

Location of Data	Applicable Confidentiality Provisions	Basis for Confidentiality
SCG-02-WP (Volumes I, IV, V, and VII); Amended Workpapers Supporting the Prepared Direct Testimony of Jordan A. Zeoli, Fidel Galvan, and Travis T. Sera (Technical – Project Execution and Management) have 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, Directional flow of natural gas), 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 SoCalGas'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 SoCalGas'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)	