SCG-02-WP-A

Errata Workpapers (Redline) Supporting the Prepared Direct Testimony of Jordan A. Zeoli, Fidel Galvan, and Travis T. Sera

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

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I. LINE 1180 [redacted] TIMP PROJECT

A. Background and Summary

Line 1180 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 3.8 miles from the intersection of [redacted], primarily through residential neighborhoods. The Project also assessed one short segment of [redacted] pipeline associated with Line 1180 using the [redacted] assessment method. The pipeline is primarily routed across a [redacted] location, with 2.9 miles within High Consequence Area(s) (HCAs) and 0.9 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 four sites. The Project activities were located in Granada Hills and the SoCalGas Aliso Canyon Storage Facility. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $3,746,166.

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Final Workpaper for Line 1180 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	1180
Segment	[redacted]
Inspection Type	[redacted] Tools
Location	Granada Hills and Porter Ranch
Class	1, 3
HCA Length	2.91 miles
Vintage	[redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values between [redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	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	2
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]

SoCalGas

Final Workpaper for Line 1180 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter *(confidential)*	[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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	0	3,746,166	3,746,166

B. Maps and Images

Figure 1: Satellite Image of Line 1180 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND PLANNING

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 Validation Direct Examinations and PostAssessment.

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 1180 [redacted] TIMP Project for Integrity Assessment using ILI.
   a. ILI from the launcher site at the intersection of [redacted] to the receiver site at the [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 Examinations #1, #2, #3, and #4 required 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 consists 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 Technololgy	Tool Method of Travel	Retrofits
1180	3.82 miles	[redacted]	[redacted]	[redacted]	No
1180	3.82 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
1180	1	Yes	No	16 ft	Soft Pad	N/A	O&M
1180	2	Yes	No	18 ft	Soft Pad	N/A	O&M
1180	3	Yes	No	9 ft	Soft Pad	N/A	O&M
1180	4	No	No	31 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 1180 [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 Team installed a temporary launcher station at the intersection of [redacted] and utilized a permanent receiver station located in SoCalGas property at [redacted].
2. HCA Threats:
   [redacted]
   [redacted]

[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 shut-in as long as Line 1192 and Line 1181 remained in service during construction.
7. Customer Impacts: No customer impacts.
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: The Project Team performed asphalt sampling and analysis for asbestos where asphalt was repaved.
11. Permit Restrictions: The Project Team obtained an encroachment permit from the City of Los Angeles for installation of the temporary launcher station.
12. Land Use: No identified impacts.
13. Traffic Control: The Project Team performed traffic control for lane closure on [redacted].
14. Constructability: Direct Examination Site #1 to be assessed using [redacted] was conducted during the Inspection Phase of the Project.

[redacted]

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

Continuing the planning process for the Line 1180 [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 this 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 1180 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of soft pad repairs.
   b. There were three Direct Examination Sites selected for validation of the ILI within the Line 1180 [redacted] TIMP Project.
      i. Direct Examination Sites #2, #3, and #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 as long as Line 1192 and Line 1181 remained in service during the Direct Examinations.
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 design and engineering.
7. Environmental: The Project Team did not identify any special environmental requirements or concerns at the sites.
8. Permit Restrictions: The Project Team obtained an encroachment permit from the City of Los Angeles for construction at Site #2 on [redacted].
9. Land Use: No identified impacts.
10. Traffic Control: The Project Team obtained traffic control approval for lane closure on [redacted] from the City of Los Angeles.

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

Figure 2: Direct Examination Site #1 Spool Piece Overview

Figure 3: Direct Examination Site #2 Overview

Figure 4: Direct Examination Site #3 Overview

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 $3,746,166.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	270,408	270,408
Contract Costs	0	2,222,286	2,222,286
Material	0	189,363	189,363
Other Direct Charges	0	771,712	771,712
Total Direct Costs	0	3,453,769	3,453,769

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	291,471	291,471
AFUDC	0	823	823
Property Taxes	0	104	104
Total Indirect Costs	0	292,397	292,397

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	3,746,166	3,746,166

[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 safety of its natural gas system by executing the Line 1180 [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 $3,746,166.

End of Line 1180 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 1181 [redacted]
TIMP Project

I. LINE 1181 [redacted] TIMP PROJECT

A. Background and Summary

Line 1181 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 5.2 miles from [redacted], through primarily residential neighborhoods. The pipeline is routed across Class 1 and 3 locations with 4.6 miles within High Consequence Area(s) (HCAs) and 0.6 miles within non-HCAs. This Workpaper describes the activities and costs associated with a TIMP Assessment that included Inspection using In-Line Inspection (ILI) and the Direct Examination made to three sites located in the cities of Granada Hills and Porter Ranch. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $3,480,699.

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Final Workpaper for Line 1181 [redacted]
TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	1181
Segment	[redacted]
Inspection Type	[redacted] ILI Tool
Location	Granada Hills and Porter Ranch
Class	1, 3
HCA Length	4.6 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	Line 1181
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]
Inspection Due Date	[redacted]

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Final Workpaper for Line 1181 [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	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	0	3,480,699	3,480,699

B. Maps and Images

Figure 1: Satellite Image of Line 1181 [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 In-line 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 1181 for Inspection using a [redacted] ILI and [redacted].
   a. ILI from a temporary launcher site at [redacted] to a temporary receiver site within [redacted].
   b. [redacted] of a short segment at [redacted]
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection, 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 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 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
1181	5.2 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
1181	1	Yes	No	25 ft	Soft Pad	N/A	O&M
1181	2	No	No	17 ft	Soft Pad	N/A	O&M
1181	3	Yes	No	20 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Planning Factors – Inspection

SoCalGas initiated the planning process for the Line 1181 [redacted] TIMP Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

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Final Workpaper for Line 1181 [redacted]
TIMP Project

1. Site Description: The Inspection started at a temporary launcher site at [redacted] and ended at a temporary receiver site within [redacted]
2. Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages from [redacted].
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized a combination tool with [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
6. Inspection Retrofits: None.
7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
8. Customer Impacts: No customer impacts.
9. Community Impacts: The Project location required significant traffic control at the ILI launcher location at [redacted]. The Project Team made the community aware of this by conducting outreach efforts for these traffic impacts.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: No identified impacts.
12. Permit Restrictions: The Project Team obtained the following permits:

a. City of Los Angeles Excavation Permit

13. Land Use: No identified impacts.

14. Traffic Control: The Project required street closures and traffic control on [redacted] during the ILI in the City of Granada Hills.

15. Other Identified Risks: Due to the gas release sensitivity to the atmosphere found in the area, the use of Thermal Oxidizers was required to help remove the excess gas in the ILI launcher and receiving barrel located at [redacted] respectively.

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

Continuing the planning process for the Line 1181 [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 1181 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of soft pad repairs.
      ii. The Project Team completed this Direct Examination during the Inspection Phase of the Project.
   b. There were two Direct Examination Sites selected for validation of the ILI within the Line 1181 [redacted] TIMP Project.
      i. Direct Examination Site #2 consisted of soft pad repairs.
      ii. 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 that the Direct Examination could be completed without system impacts.
3. Customer Impacts: No customer impacts.
4. Community Impacts: There was an impact to traffic flow near Direct Examination Site #3. The Project Team attended monthly outreach meetings for the impacted community to answer any questions.
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. City of Los Angeles Excavation Permit required at Direct Examination Site #1.
   b. City of Los Angeles Excavation Permit required at Direct Examination Site #3.
8. Land Use: No identified impacts.
9. Traffic Control: The Project required lane closures on [redacted] during the Direct Examination of Site #3.

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 Sites #2, #3		
Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: In-Line Inspection Tool

Figure 3: Direct Examination Site #2 Backfill

Final Workpaper for Line 1181 [redacted]
TIMP Project

Figure 4: Short Segment Overview

Figure 5: Direct Examination Site #1 Overview

Figure 6: Direct Examination Site #2 Overview

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 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 $3,480,699.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	235,348	235,348
Contract Costs	0	2,290,215	2,290,215
Material	0	113,871	113,871
Other Direct Charges	0	556,582	556,582
Total Direct Costs	0	3,196,016	3,196,016

Table 7: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	284,682	284,682
AFUDC	0	0	0
Property Taxes	0	0	0
Total Indirect Costs	0	284,682	284,682

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	3,480,699	3,480,699

[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 1181 [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 $3,480,699.

End of Line 1181 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 1185 and Line 4002 Phase 1 Phase [redacted] TIMP Project

I. LINE 1185 AND LINE 4002 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 1185 and Line 4002 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 31 miles from [redacted] through residential neighborhoods and commercial areas. The pipeline is routed across Class 1, 2, and 3 locations with 8.3 miles within High Consequence Area (HCA) locations and 22.7 miles within non-HCA locations. This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI). The Project activities were located in the cities of Adelanto and Fontana. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $4,115,001.

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Final Workpaper for Line 1185 and Line 4002 Phase 1 Phase [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	1185 and 4002		
Segment	Phase 1 – [redacted]		
Inspection Type	[redacted] ILI Tools		
Location	Victorville		
Class	1, 2, 3		
HCA Length	8.3 miles		
Vintage	Multiple vintages from [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values ranging 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	14,731	4,100,270	4,115,001

B. Maps and Images

Figure 1: Satellite Image of Line 1185 and Line 4002 Phase 1 [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 a 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. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 1185 and Line 4002 Phase 1 for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] to a permanent receiver site within [redacted].
   b. Installed temporary piping and a filter separator at the receiver site.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, Direct Examination sites will be identified for validation and will be addressed after 2023, outside the scope of this proceeding.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of any future Direct Examinations will be used to determine if additional examinations are required.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
1185/ 4002	31 mi	[redacted]	[redacted]	[redacted]	No
1185/ 4002	31 mi	[redacted]	[redacted]	[redacted]	No
1185/ 4002	31 mi	[redacted]	[redacted]	[redacted]	No
1185/ 4002	31 mi	[redacted]	[redacted]	[redacted]	No

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 1185 and Line 4002 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 are as follows:

1. Site Description: The Project completed the Inspection of the pipeline from a permanent launcher site at [redacted] to a permanent receiver site at [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages from [redacted].

[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.
   a. The Project required two [redacted] runs. The first run was rejected due to data loss and a speed excursion that exceeded the allowable limit. The Project Team combined the data of the two runs.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
7. Customer Impacts: No customer impacts.
8. Community Impacts: No identified impacts.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: The Project required an environmental monitor to follow the trackers from [redacted] for the presence of desert tortoises.
11. Permit Restrictions: There were no special permits or permit restrictions for this Project.
12. Land Use: No identified impacts.
13. Traffic Control: No identified impacts.
14. Schedule Delay: The ILI run was initially scheduled in July, but due to an SRC on an associated line, the Project Team rescheduled for September.

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 Inspection using ILI, Direct Examination sites will be identified for validation and addressed after 2023.

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

The Project Team will use 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 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.

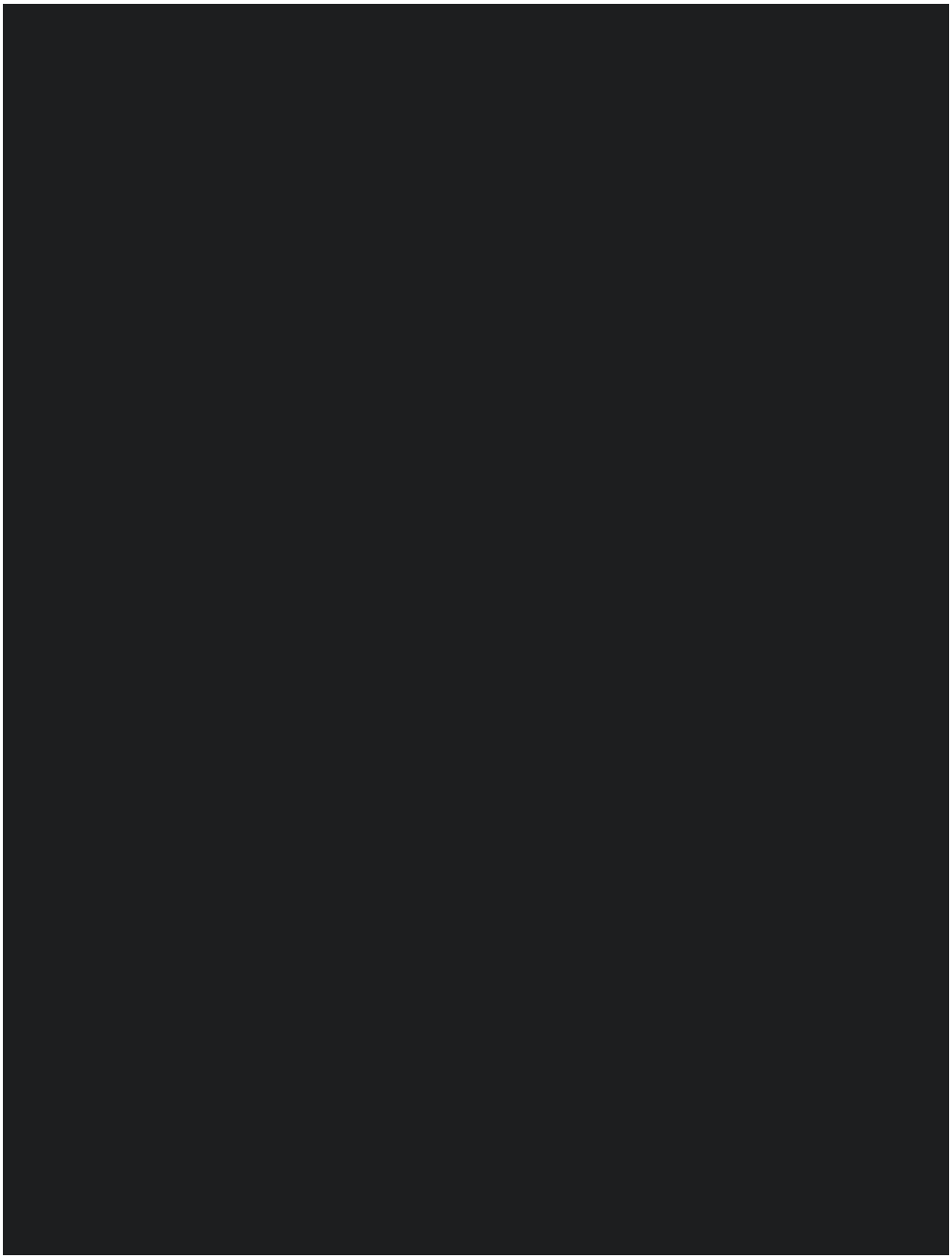
B. Construction Schedule

Table 3: Construction Timeline – Inspection

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

Figure 2: Fontana Receiver and Temporary Piping

Figure 3: Adelanto Launcher



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 $4,115,001.

Table 4: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	1,179	386,830	388,009
Contract Costs	0	1,701,515	1,701,515
Material	9,823	66,857	76,680
Other Direct Charges	0	1,547,362	1,547,362
Total Direct Costs	11,002	3,702,563	3,713,565

Table 5: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	3,681	397,707	401,387
AFUDC	47	0	47
Property Taxes	1	0	1
Total Indirect Costs	3,729	397,707	401,436

Table 6: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	14,731	4,100,270	4,115,001

[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 1185 and Line 4002 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 $4,115,001.

End of Line 1185 and Line 4002 Phase 1 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 1192 and Line 407 [redacted] TIMP Project

I. LINE 1192 AND LINE 407 [redacted] TIMP PROJECT

A. Background and Summary

Line 1192 and Line 407 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 24.5 miles from [redacted]. The pipeline is routed across Class 1, 2, 3, and 4 locations with 18.6 miles within High Consequence Areas (HCAs) and 5.9 miles within non-HCAs. This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations. The Project activities were located in the cities of Aliso Canyon, Porter Ranch, Encino, Sullivan Canyon, and West Los Angeles. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $9,829,414.

SoCalGas

Final Workpaper for Line 1192 and Line 407 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	1192 and 407
Segment	[redacted]
Inspection Type	[redacted] ILI Tool
Location	Los Angeles
Class	1, 2, 3, 4
HCA Length	18.6 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	Multiple values from [redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	
Final Tool Run Date	
Inspection Due Date	
Direct Examination Details	
Site	1
Examination ID	[redacted]
Mitigation/Remediation Type	Band
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

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Final Workpaper for Line 1192 and Line 407 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	2,401,039	7,428,375	9,829,414

B. Maps and Images

Figure 1: Satellite Image of Line 1192 and Line 407 [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 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 1192 and Line 407 for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] to a temporary receiver site at the [redacted] in West Lost Angeles. A permanent kick line was installed with the temporary launcher to facilitate the ILI.
   b. The temporary receiver included temporary installation of a filter separator, inlet, and dump line assembly.
   c. The initial [redacted] ILI was not accepted due to a hard drive malfunction and required a rerun.
   d. The Project required an additional [redacted] run to obtain [redacted] data.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI, four Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of repair bands.
   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. Final Project Scope: The final project scope of this Workpaper includes Inspections 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
1192/407	24.5 mi	[redacted]	[redacted]	[redacted]	Yes
1192/407	24.5 mi	[redacted]	[redacted]	[redacted]	Yes

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
407	1	No	No	23 ft	Band	N/A	Capital
407	2	Yes	No	17 ft	Soft Pad	N/A	O&M
1192	3	Yes	No	15 ft	Soft Pad	N/A	O&M
407	4	Yes	No	15 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 1192 and Line 407 [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]
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 initial [redacted] ILI was not accepted due to a hard drive malfunction which resulted in loss of data. A second [redacted] tool run was required to obtain a complete data set.
   c. A second [redacted] tool run was performed to obtain [redacted] data for the Inspection.
6. Inspection Retrofits: A permanent kick gas line was installed with the temporary launcher to facilitate the Inspection.
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.

[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: The Project Team obtained a Building Materials Permit from the City of Los Angeles on [redacted]. Construction activities were restricted during the peak hours of 6:00 AM to 9:00 AM and 3:30 PM to 7:00 PM.
13. Land Use: No identified impacts.
14. Traffic Control: The Project Team required a Traffic Control Plan (TCP) at the receiver site that included flaggers, cones, and signage to provide a safe work area for employees and contractors.
15. Schedule Delay: The Project Team experienced delays due to the additional ILI tool runs required.

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 1192 and Line 407 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of two Repair Bands.
   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. 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 customer impacts.
4. Community Impacts: Traffic impacts and occasional noise due to the locations of the Direct Examination Sites in the highly trafficked roadways of [redacted].
5. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
6. Environmental: Direct Examination Site #1 is located under the jurisdiction of the California Department of Fish and Wildlife (CDFW) and required implementation of all conditions included in the CDFW 1602 Lake and Streambed Alteration Agreement. This permit restricted any activities around the waterways to only vehicle and equipment ingress and egress to the Direct Examination. No other activities were permitted. The permit also required specific on-site restoration for the temporary impacts resulting from the approved project activities.
7. Permit Restrictions: The Project Team required the following Permits:
   a. CDFW 1602 Lake and Streambed Alteration Agreement Permit for Direct Examination Site #1.
   b. County of Los Angeles Property Access Permit for Direct Examination Site #1.
   c. County of Los Angeles Resurfacing Permit for Direct Examination Site #3.
   d. County of Los Angeles Resurfacing Permit for Direct Examination Site #4.
8. Land Use:
   a. The Project Team secured a Rental Agreement with the Los Angeles County Flood District for a laydown yard at Direct Examination Site #1.
   b. Temporary Right of Entry (TRE) agreements were required with private landowners for a laydown yard and access to Direct Examination Site #2.
9. Traffic Control:
   a. The Project Team obtained a TCP from the City of Los Angeles for Direct Examination Site #3. The TCP consisted of a one lane closure on [redacted], the use of cones, signs, barricades, and other measures.

b. The Project Team obtained a TCP from the City of Los Angeles for Direct Examination Site #4. The TCP consisted of a one lane closure on [redacted]. The TCP included the use of flaggers, cones, signs, and other measures.

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

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: [redacted] In Line Inspection Tool

Figure 3: Direct Examination Site #1 Repair Bands

Figure 4: Direct Examination Site #2 Coating Application

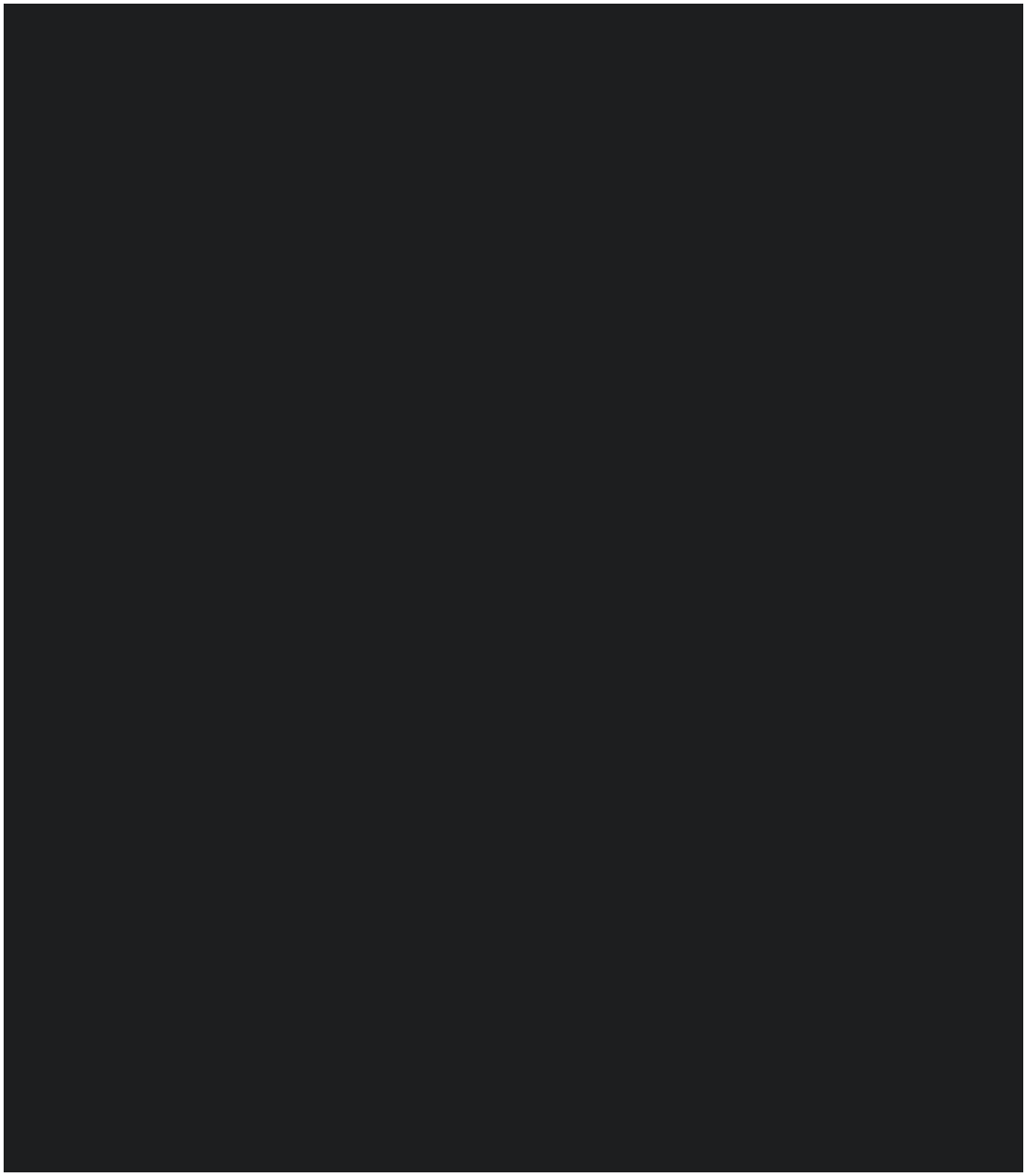


Figure 5: Direct Examination Site #3 Excavation Pre-Inspection

Figure 6: Direct Examination Site #4 Coating Application

Figure 7: Direct Examination Site #4 Backfill and Pipe Warning Tape

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 $9,866,790.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	72,137	634,388	706,525
Contract Costs	1,603,641	4,054,536	5,658,177
Material	52,670	316,702	369,372
Other Direct Charges	288,677	1,692,516	1,981,193
Total Direct Costs	2,017,126	6,698,142	8,715,268

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	310,743	726,773	1,037,516
AFUDC	62,175	3,071	65,245
Property Taxes	10,995	390	11,385
Total Indirect Costs	383,913	730,233	1,114,146

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,401,039	7,428,375	9,829,414

[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 1192 and Line 407 [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 $9,829,414.

End of Line 1192 and Line 407 [redacted] TIMP Project Final Workpaper

I. LINE 1202 [redacted] TIMP PROJECT

A. Background and Summary

Line 1202 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 7.6 miles from [redacted] in the City of Carson to the intersection of [redacted] in the City of Redondo Beach. The pipeline is routed across [redacted] High Consequence Area(s) (HCAs) locations, through residential neighborhoods and commercial areas. This Workpaper describes the activities and costs associated with Direct Examinations made to three sites. The Project activities were located in City of Carson, City of Torrance, and City of Redondo Beach. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $923,433.

SoCalGas

Final Workpaper for Line 1202 [redacted] TIMP Project

Table 1: General Project Information

Direct Examination Details			
Site	1		
Examination ID	[redacted]		
Mitigation/Remediation Type	Replacement		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Mitigation/Remediation Type	No Repairs		
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]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	536,925	386,508	923,433

B. Maps and Images

Figure 1: Satellite Image of Line 1202 [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 occurred during the 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 1202 [redacted] TIMP Project for Inspection using In-Line Inspection (ILI).
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 a 51 foot pipeline replacement.
   b. Direct Examination Site #2 consisted of no 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 three Direct Examinations.

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
1202	1	Yes	No	51 ft	Replacement	51 ft	Capital
1202PL1	2	No	No	8 ft	No Repairs	N/A	O&M
1202	3	Yes	No	25 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas completed the Inspection for the Line 1202 [redacted] TIMP Project in a previous GRC.[2]

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 1202 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 51 foot pipeline replacement.
   b. Direct Examination Site #2 consisted of no repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
2. SRC/IRC: There were no SRCs or IRCs during the Direct Examinations.

[2] Cost and activities within this report are summarized to align with A.17-10-008.

3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be inspected without system impacts.
4. Customer Impacts: No identified 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 identified multiple utilities prior to construction and included them in the Project design. The identified substructures and their vicinity to the pipeline at this Project location required additional excavation time to avoid impacts.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained various permits for the Direct Examinations, as follows:
   a. City of Redondo Beach Public Works Department Engineering Permit for Direct Examination Site #1.
   b. Construction and Excavation Permit from the City of Torrance for Direct Examination Site #1.
   c. Encroachment Permit from the City of Carson for Direct Examination Site #2.
   d. Engineering Services Permit from the City of Carson for Direct Examination Site #3.
9. Land Use: The Project Team shared a laydown yard with another SoCalGas project for the Direct Examinations.
10. Traffic Control: The Project Team obtained approval for Traffic Control Plans (TCP) from the following entities:
    a. Dual TCP for Direct Examination Site #1 approved by City of Redondo Beach and City of Torrance restricting street closure hours during construction.
    b. City of Carson Public Works Department for Direct Examination Sites #2 and #3.

11. Constructability:

a. The Project Team coordinated construction scheduling with other SoCalGas projects for Direct Examination Sites #1 and #2.
b. The Project Team installed ultrasonic testing (UT) probes on the pipeline at Direct Examination Site #1 to monitor potential [redacted]

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

Figure 2: UT Probes installed at Direct Examination Site #1

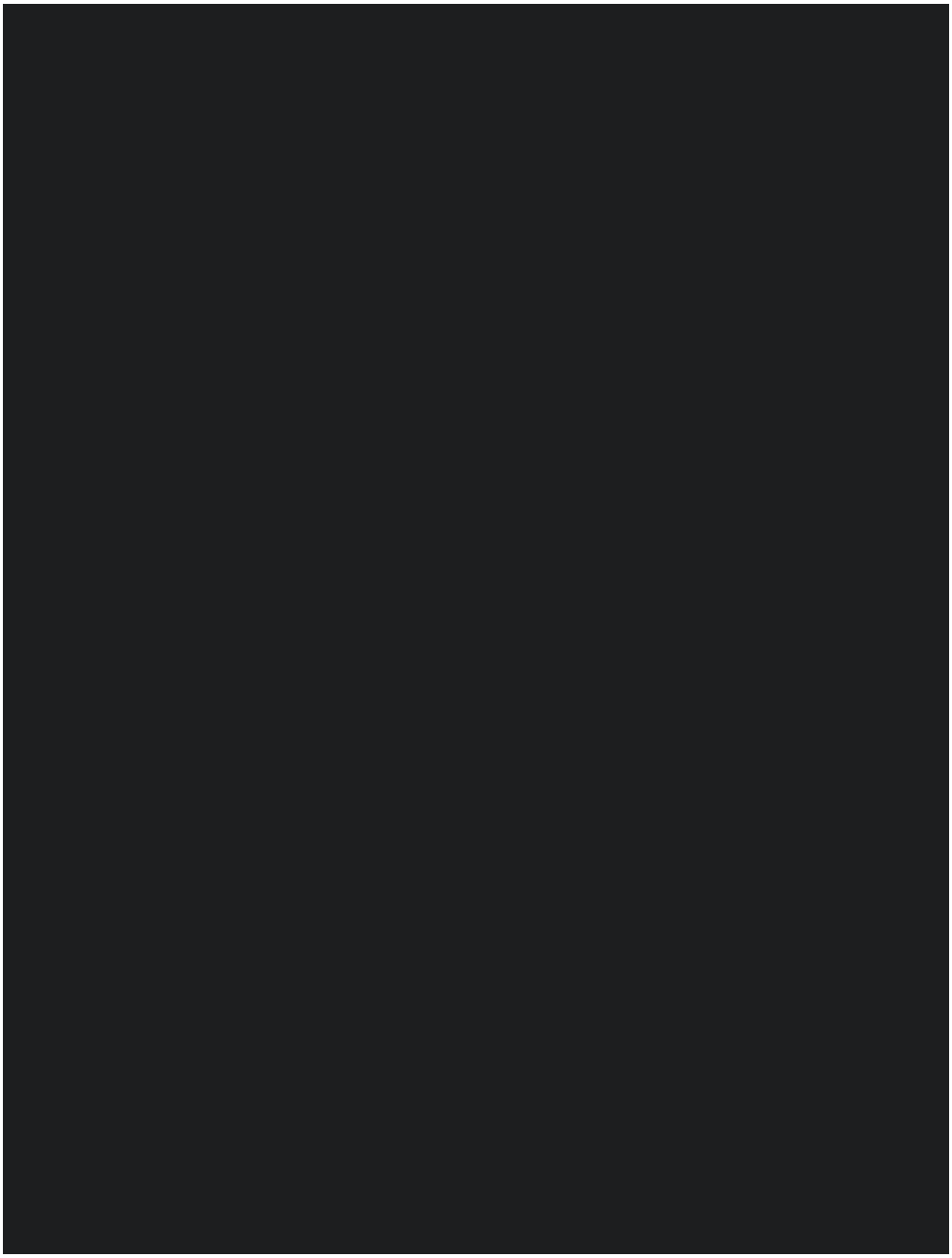
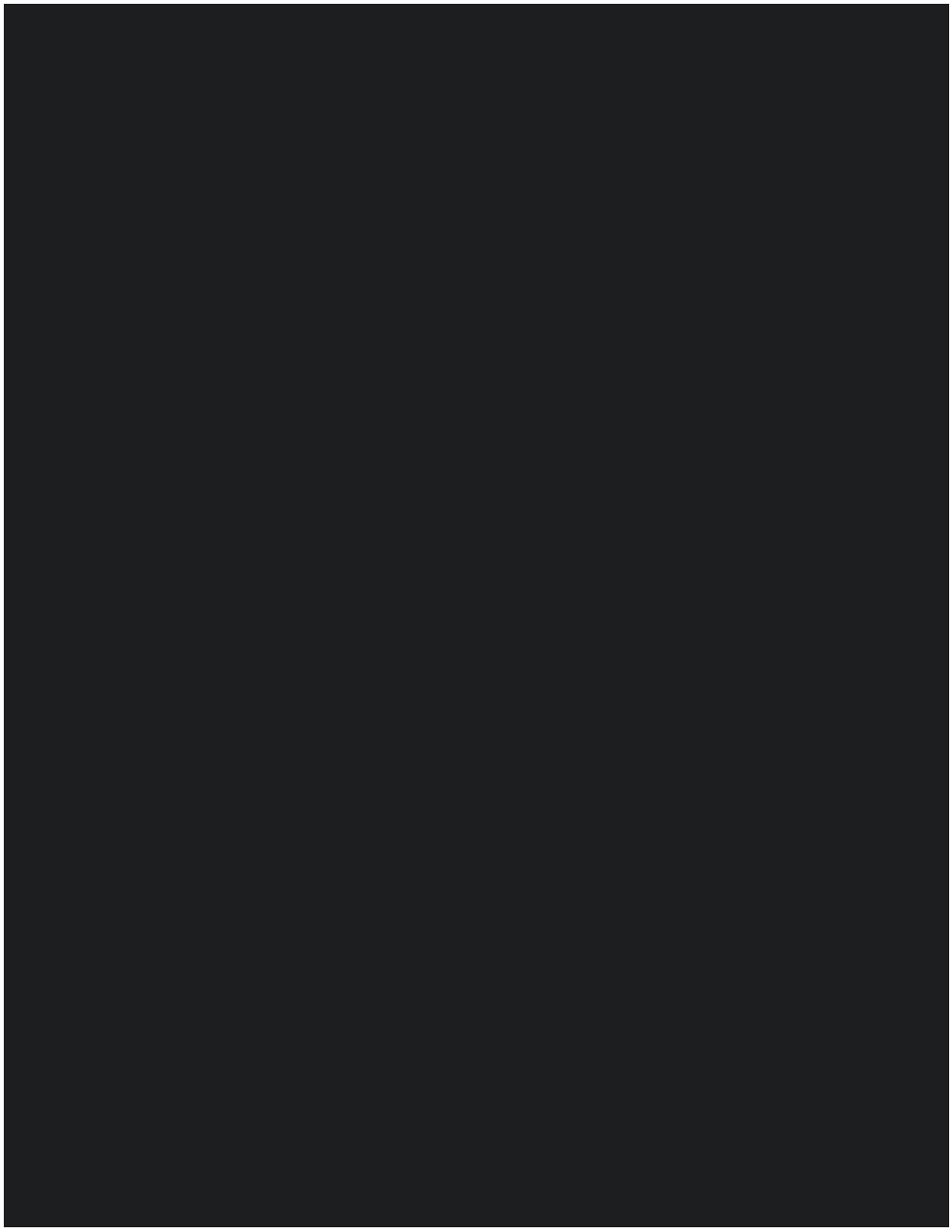


Figure 3: Direct Examination Site #3



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 acceptable. 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 $923,433.

Table 4: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	136,190	31,029	167,218
Contract Costs	95,835	209,538	305,373
Material	12,752	18,528	31,279
Other Direct Charges	168,446	95,049	263,496
Total Direct Costs	413,224	354,143	767,367

Table 5: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	122,500	32,364	154,865
AFUDC	821	0	821
Property Taxes	380	0	380
Total Indirect Costs	123,701	32,364	156,066

Table 6: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	536,925	386,508	923,433

[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 1202 [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 $923,433.

End of Line 1202 [redacted] TIMP Project Final Workpaper

I. LINE 1207 TIMP PROJECT

A. Background and Summary

Line 1207 Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 578 feet from the City of Carson, along [redacted] and within a commercial area. The pipeline is routed across [redacted] location entirely within a High Consequence Area (HCA). This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI). The Project activites were located in the City of Carson. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $4,417,604.

SoCalGas

Final Workpaper for Line 1207 TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	1207		
Segment	[redacted]		
Inspection Type	[redacted] Tool		
Location	Carson City		
Class	[redacted]		
HCA Length	578 ft		
Vintage	[redacted]		
Pipe Diameter *(confidential)*	[redacted]		
MAOP *(confidential)*	[redacted]		
SMYS *(confidential)*	[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	4,143,338	274,266	4,417,604

B. Maps and Images

Figure 1: Satellite Image of Line 1207 TIMP Project

II. ENGINEERING, DESIGN, AND CONSTRUCTABILITY

A. Project Scope

As described in the prepared 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 occured 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.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 1207 for first time Inspection using [redacted].
   a. [redacted] from a temporary launcher and receiver site on [redacted].
   b. The Project required retrofits and installations to facilitate this Inspection as well as future Inspections.
   c. The Project required the use of temporary filter separator to protect equipment at a meter set assembly (MSA) during tapping of the [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using [redacted], Direct Examination was completed using a validation spool piece and it was determined that no additional Direct Examination Sites were required.

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

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

Table 2: Final Inspection Project Scope - ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
1207	578 ft	[redacted]	[redacted]	[redacted]	Yes

B. Engineering, Design, and Constructibility Factors – Inspection

SoCalGas initiated the planning process for the Line 1207 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 site was in the street off [redacted], but we did have to install a temporary filter separator just upstream of the customer's meter set assembly (MSA) to avoid damaging equipment with shavings.
2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted]
4. Long Seam Type:
   [redacted]

5. Inspection Tools and Technologies: The Project utilized a [redacted] combination tool with [redacted] during the Inspection of the pipeline.
6. Inspection Retrofits: The Project required the following retrofits:
   a. A bridle retrofit to facilitate future Inspections.
   b. The installation of three [redacted] to facilitate this Inspection as well as future Inspections.
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 determined that customer service could be maintained to core and non-core customers by installing a temporary bypass and temporary filter separator assembly during the assessment.
9. Community Impacts: Traffic impacts and occasional noise.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: The Project Team did not identify any notable environmental concerns at the sites.
12. Permit Restrictions: The Project Team obtained an Encroachment Permit from the City of Carson.
13. Land Use: No identified impacts.
14. Traffic Control: The Project Team required a Traffic Control Plan (TCP) from the City of Carson. This consisted of a one lane closure and a shoulder closure on the along [redacted]. An additional TCP was required to close all southbound lanes and the northbound fast lane during the installation of a [redacted]

15. Constructability:
    a. Rain during this time also accounted for many delays and extra cost to clean the excavation out each time. The over-time labor and equipment resulted in increased cost.

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

SoCalGas completed the Direct Examination for the Line 1207 using a validation spool piece and it was determined that no additional Direct Examination Sites were required for validation.

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

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

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, 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: Customer MSA

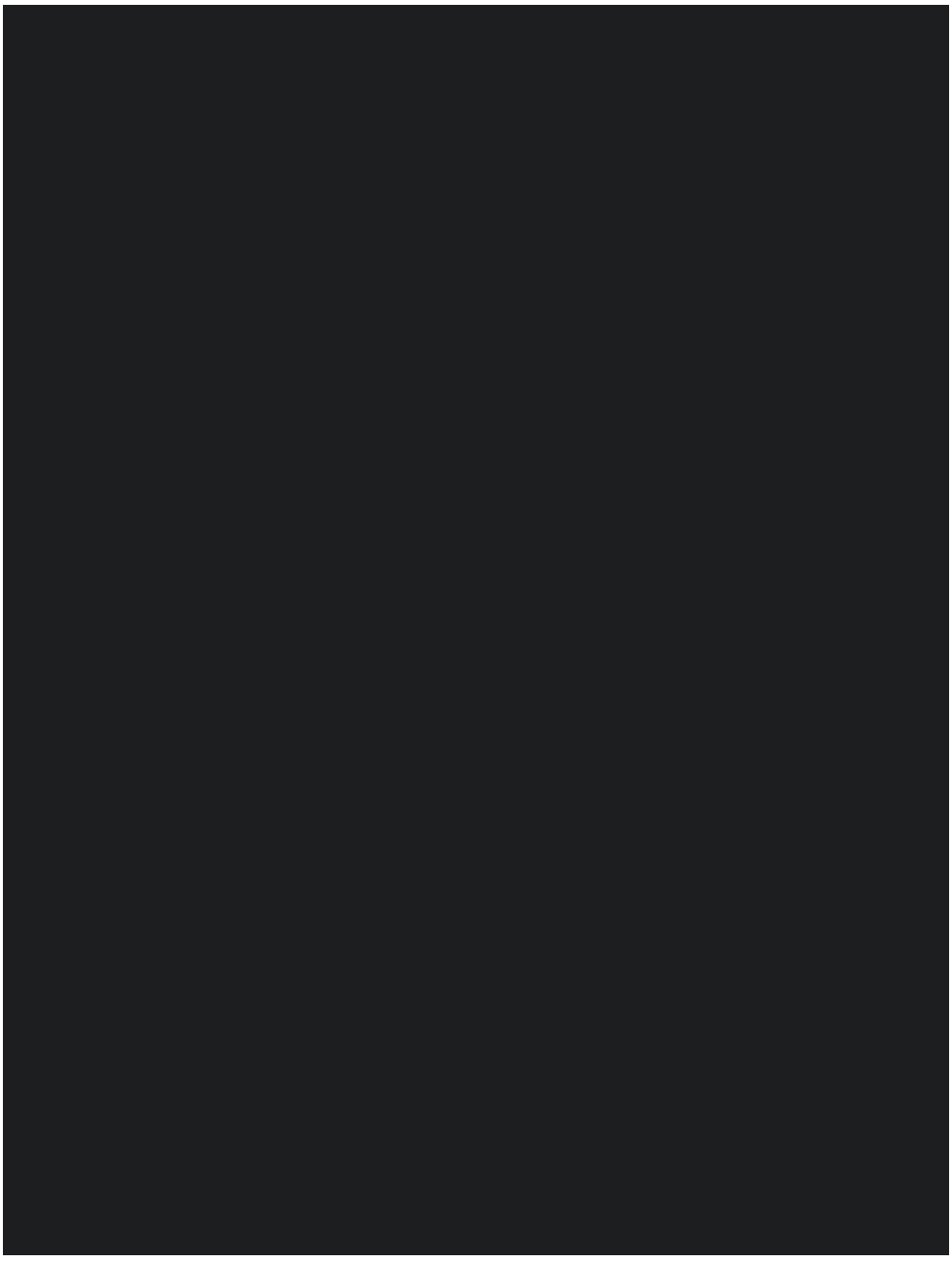


Figure 3: Bridle Tie-Ins

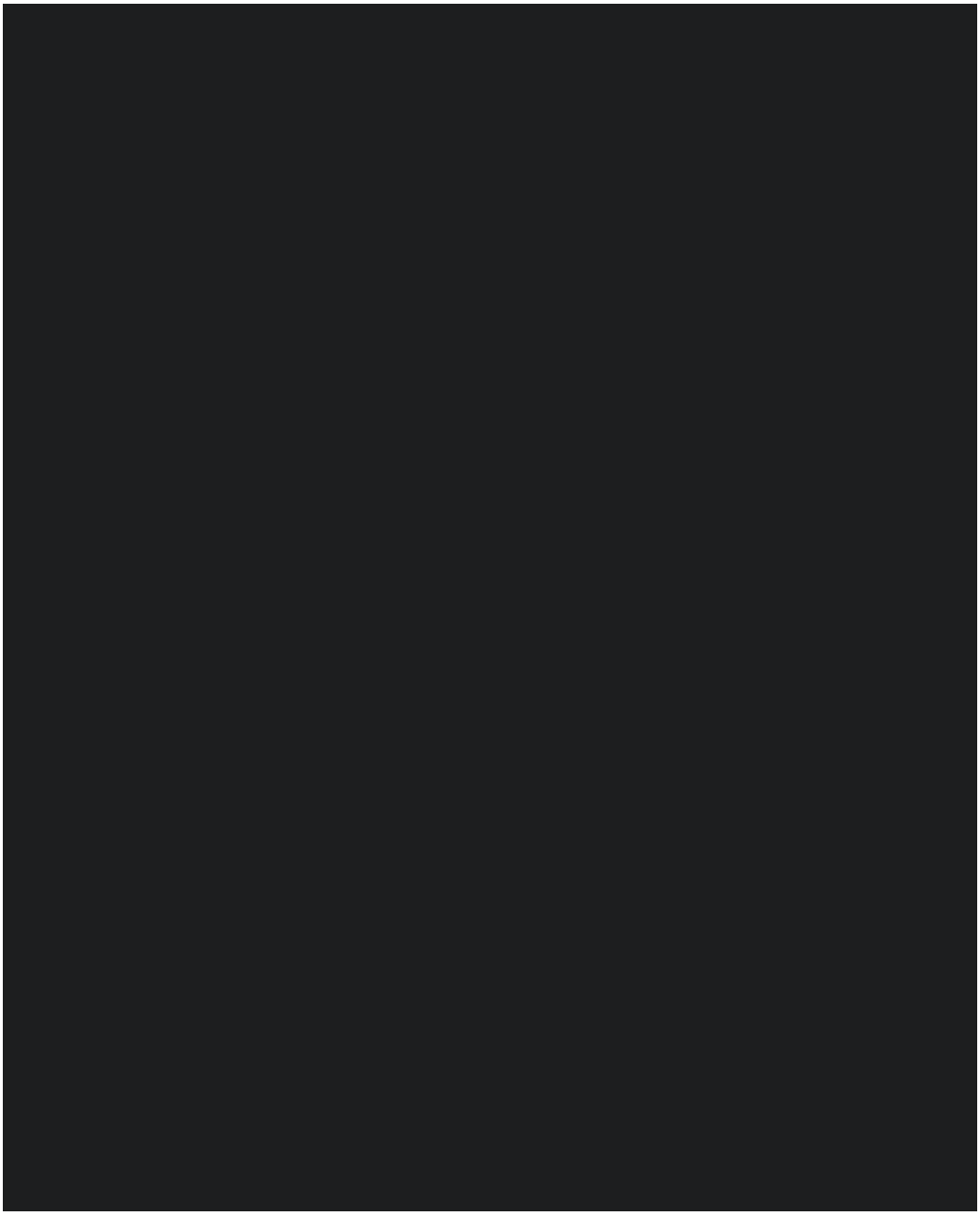


Figure 4: Bridle

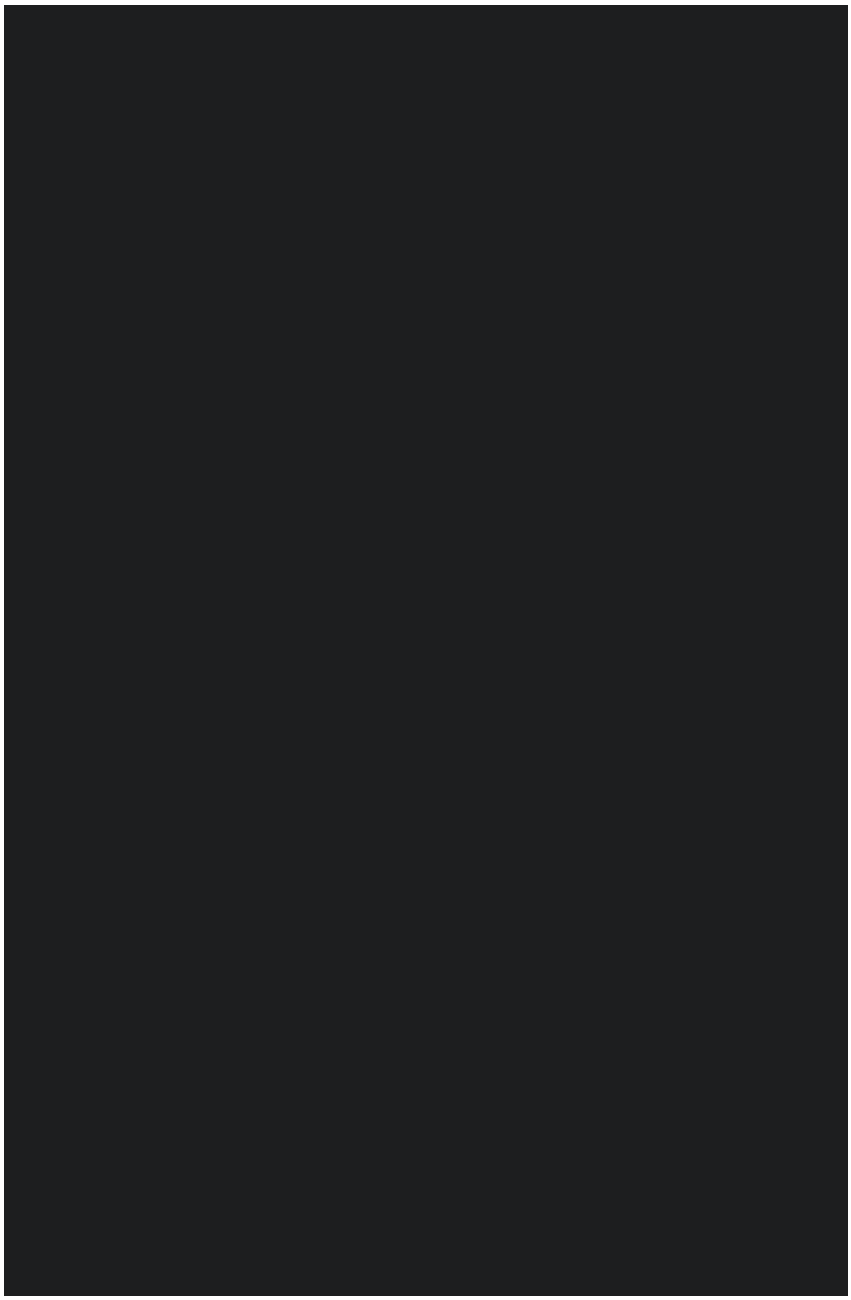
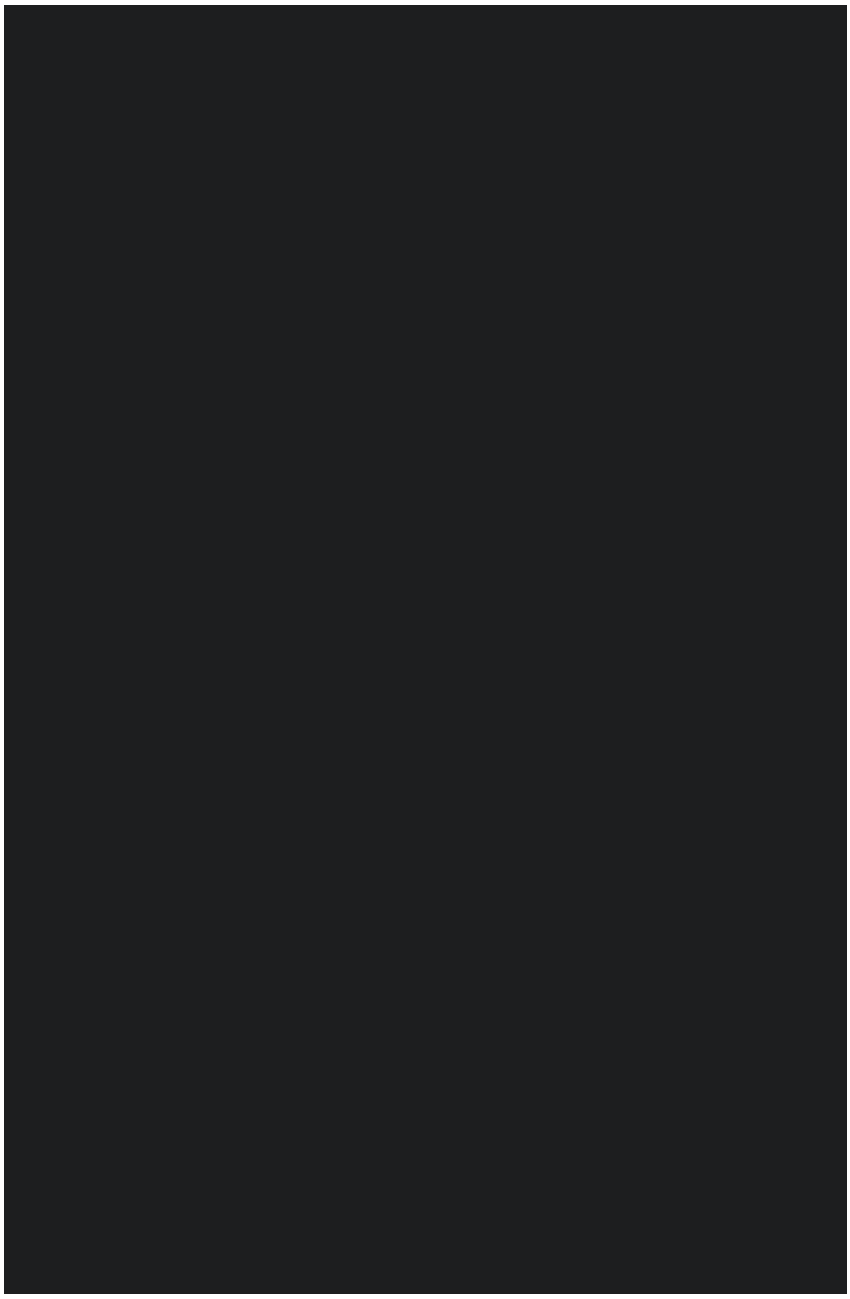


Figure 5: Bridle



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.

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 $4,417,604.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	196,715	12,039	208,754
Contract Costs	3,004,981	187,665	3,192,647
Material	137,176	4,103	141,280
Other Direct Charges	230,834	55,959	286,793
Total Direct Costs	3,569,706	259,767	3,829,473

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	513,151	14,499	527,650
AFUDC	49,966	0	49,966
Property Taxes	10,515	0	10,515
Total Indirect Costs	573,632	14,499	588,131

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	4,143,338	274,266	4,417,604

[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 the Line 1207 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 $4,417,604.

End of Line 1207 TIMP Project Final Workpaper

I. LINE 1229 [redacted] TIMP PROJECT

A. Background and Summary

Line 1229 [redacted] the Transmission Integrity Management Program (TIMP) Project assessed a [redacted] and [redacted] diameter transmission line that runs approximately 0.5 miles along [redacted] through residential neighborhoods. The Project also assessed two short segments of [redacted] and [redacted] pipeline using the [redacted] assessment method. The pipeline is routed across [redacted] locations entirely within High Consequence Area(s) (HCAs). This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to two sites. The Project activities were located near the City of Northridge and City of Porter Ranch. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $4,238,513.

SoCalGas

Final Workpaper for Line 1229 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	1229
Segment	[redacted]
Inspection Type	[redacted] Tool
Location	Northridge and Porter Ranch
Class	[redacted]
HCA Length	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	
Line	1229
Site	1
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]

[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."

[2] Ibid.

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Final Workpaper for Line 1229 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Line	1229		
Site	2		
Examination ID	[redacted]		
Type	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	958,406	3,280,107	4,238,513

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

Final Workpaper for Line 1229 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 1229 [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 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 1229 [redacted] for Inspection using [redacted]
   a. [redacted] of Line 1229 from [redacted] through a temporary launcher and receiver site.
   b. The Project required installation of a [redacted] for the Inspection.
2. Direct Examination – Engineering, Design, and Constructability:
   a. Two Direct Examination sites were identified to assess pipeline segments that could not accommodate an ILI tool.
      i. Direct Examination Site #1 consisted of no repairs.
      ii. Direct Examination Site #2 consisted of soft pad repairs.
   b. Following the completion of the Inspection using [redacted], direct examination was done on a validation spool piece, and it was determined that no additional Direct Examination sites were required for validation.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the spool piece following the Inspection resulted in no additional examinations.

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

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
1229	0.5 mi	[redacted]	[redacted]	[redacted]	Yes

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
1229	1	Yes	No	50 ft	No Repairs	N/A	O&M
1229	2	Yes	No	38 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 1229 [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: [redacted] of Line 1229 from [redacted] through a temporary launcher and receiver 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] combination tool with [redacted] during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
6. Inspection Retrofits: The Project required installation of a [redacted] for the Inspection using [redacted]
7. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
8. Customer Impacts: No customer impacts.
9. Community Impacts:
   a. The Project Team mitigated community impact by means of outreach communications to residential customers in the Project vicinity.
   b. The Project Team provided required written notification of the Project to nearby establishments.
10. Substructures: The Project Team identified various substructures near the location for the [redacted] installation, resulting in altered installation design and location.
11. Environmental: No identified impacts.
12. Permit Restrictions: The Project Team obtained approved permits from the following entities:
    a. Utility Permit from the City of Los Angeles Department of Public Works.
    b. Peak Hour Exemption Permit from the City of Los Angeles Department of Public Works.
    c. Noise Variance Permit from the Los Angeles Police Commission.
13. Land Use: The Project Team obtained a Temporary Right of Entry (TRE) agreement for a laydown yard in the City of Newhall.

14. Traffic Control: The Project Team obtained approved Traffic Control Plans (TCP) from the City of Los Angeles Department of Transportation. The TCP required full street closure to westbound traffic on [redacted] during the [redacted] Inspection.
15. Schedule Delay: The Project was delayed during backfill operations due to unanticipated permitting requirements and delayed approval processes.
16. Constructability:
    a. The Project Team considered the Project location to strategically place the [redacted] in a location where the Inspection tool could be [redacted] prior to extraction.
    b. Two sites to be assessed using [redacted] were conducted during the Inspection Phase of the Project.

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

SoCalGas completed various site evaluations and communicated with project stakeholders. Key factors that influenced the engineering and design of the Project are as follows:

1. Engineering Assessment:
    a. There were two [redacted] Sites selected to assess pipeline segments that could not accommodate an ILI tool within the Line 1229 [redacted] TIMP Project.
        i. Direct Examination Site #1 consisted of no repairs.
        ii. Direct Examination Site #2 consisted of soft pad repairs.
        iii. The Project Team completed these Direct Examinations during the Inspection phase of the Project.
    b. Following the completion of the Inspection using [redacted], direct examination was done on a validation spool piece, and it was determined that no additional Direct Examination sites were required for validation.

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.
4. Customer Impacts: No customer impacts.
5. 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 required written notification of the Project to nearby establishments.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained approved permits from the following entities:
   a. Utility Permit from the City of Los Angeles Department of Public Works.
   b. Peak Hour Exemption Permit from the City of Los Angeles Department of Public Works.
   c. Noise Variance Permit from the Los Angeles Police Commission.
9. Land Use: The Project Team obtained a TRE agreement for a laydown yard in the City of Newhall.
10. Traffic Control: The Project Team obtained an approved TCP from the City of Los Angeles Department of Transportation. The TCP required full street closure to westbound traffic on [redacted] during the [redacted] Inspection.
11. Schedule Delay: The Project was delayed during backfill operations due to unanticipated permitting requirements and delayed approval processes.
12. Constructability: The Project Team completed Direct Examination Sites #1 and #2 during the Inspection Phase of the Project.

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

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

Construction Start Date	[redacted]
Construction Completion Date	
Due Date	

[4] *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."

[5] Ibid.

Figure 2: [redacted] Inspection Tool

Figure 3: Direct Examination Site #1

Figure 4: Direct Examination Site #2

Figure 5: Direct Examination Site #2

Figure 6: Direct Examination Site #1

C. Commissioning and Site Restoration

Commissioning activities include restoration of the site; final Inspection and returning pipeline to normal operating conditions, transportation and disposal of 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. Project Design: The Project Team considered the project location and technology used for the Inspection to strategically place the [redacted] in a location where the technology could be [redacted] prior to extracting the tool, minimizing project costs and schedules.
2. Materials: The Project Team identified the [redacted] as a long lead item and ensured securing the material in advance, minimizing project impacts.
3. Land Use: The Project Team obtained a shared laydown yard, minimizing project costs.
4. Other: The Project Team utilized steel plates to cover excavations during schedule delays caused by permitting, minimizing project costs.

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 $4,238,513.

Table 6: Actual Direct Costs[7]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	107,822	106,228	214,050
Contract Costs	369,907	2,522,681	2,892,588
Material	176,014	7,163	183,177
Other Direct Charges	160,698	443,768	604,467
Total Direct Costs	814,441	3,079,840	3,894,281

Table 7: Actual Indirect Costs[8]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	141,359	200,267	341,626
AFUDC	1,884	0	1,884
Property Taxes	722	0	722
Total Indirect Costs	143,965	200,267	344,232

Table 8: Total Costs[9]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	958,406	3,280,107	4,238,513

[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 1229 [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 $4,238,513.

End of Line 1229 [redacted] TIMP Project Final Workpaper

I. LINE 2000 EAST PHASE 3 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 East Phase 3 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 50.7 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 10.8 miles within High Consequence Areas (HCAs) and 40.9 miles within non-HCAs. This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI). The Project activities were located in Riverside County. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $6,474,608.

SoCalGas

Final Workpaper for Line 2000 East Phase 3 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	2000 East		
Segment	Phase 3 – [redacted]		
Inspection Type	[redacted] ILI tool		
Location	Riverside County		
Class	1, 2, 3		
HCA Length	10.7 miles		
Vintage	Multiple vintages from [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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,269,432	5,205,176	6,474,608

B. Maps and Images

Figure 1: Satellite Image of Line 2000 East Phase 3 [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 occurred during the Inspections.

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 2000 East Phase 3 for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] to a temporary receiver site at the intersection of [redacted].
   b. Installation of a permanent [redacted] valve at the receiver site of Line 2000.
   c. Installation of a reducing tee, [redacted] valve, 40 feet of [redacted], and concrete supports on the adjacent Line 2001.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI, Direct Examination sites were identified for validation and will be addressed after the TY 2019 General Rate Case (GRC) cycle.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the future Direct Examinations will be used to determine if additional examinations are required.
4. Final Project Scope: The final project scope for this workpaper is Inspection using ILI and receiver retrofits.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
2000 East	50.7 mi	[redacted]	[redacted]	[redacted]	Yes
2000 East	50.7 mi	[redacted]	[redacted]	[redacted]	Yes
2000 East	50.7 mi	[redacted]	[redacted]	[redacted]	Yes
2000 East	50.7 mi	[redacted]	[redacted]	[redacted]	Yes

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2000 East Phase 3 [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 performed an ILI from a permanent launcher at [redacted] to a temporary receiver station at the intersection of [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 [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
   b. The Project Team was required to re-run the [redacted] tool due to debris encountered in the pipeline.
   c. The Project Team was required to re-run the [redacted] to confirm no damage was sustained to the pipeline during Tropical Storm Hilary, which preceded the re-run of the [redacted].
   d. The [redacted] tool experienced partial data loss during the Inspection due to speed excursions and sensor lift off. The Project Team determined that re-running the [redacted] tool would be ineffective and decided to assess the [redacted] on this pipeline utilizing the [redacted] method. The [redacted] will occur after the TY 2019 GRC cycle.
6. Inspection Retrofits: The Project Team installed the following valves and fittings to facilitate the Inspection:
   a. A permanent [redacted] valve and concrete support were installed at the receiver location on Line 2000.
   b. A reducing tee, [redacted] valve, 40 feet of [redacted] pipe, and concrete supports were installed on the adjacent Line 2001 at the receiver location to accept the dump line gas for the Inspection.

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 after completion of another SoCalGas project on Line 2001.
8. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
9. Community Impacts: The Project had minimal community impacts.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering
11. Permit Restrictions: The Project Team extended an existing Temporary Right of Entry (TRE) from a private landowner for access to the receiver site and retrofit installation.
12. Environmental: The Project Team required tribal cultural monitoring and biological monitoring during construction.
13. Land Use: No identified impacts.
14. Traffic Control: The Project Team did not identify any traffic control needs at the site.
15. Constructability: The Project Team coordinated with the isolation period of Line 2001 to perform the retrofits necessary for the ILI of Line 2000 without requiring additional isolation.

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 were identified for validation and will be addressed after 2023.

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

The Project Team will use 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 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: Inspection Tool Before Launch

Figure 3: Mainline Valve Retrofit

Figure 4: Temporary Receiver Installation

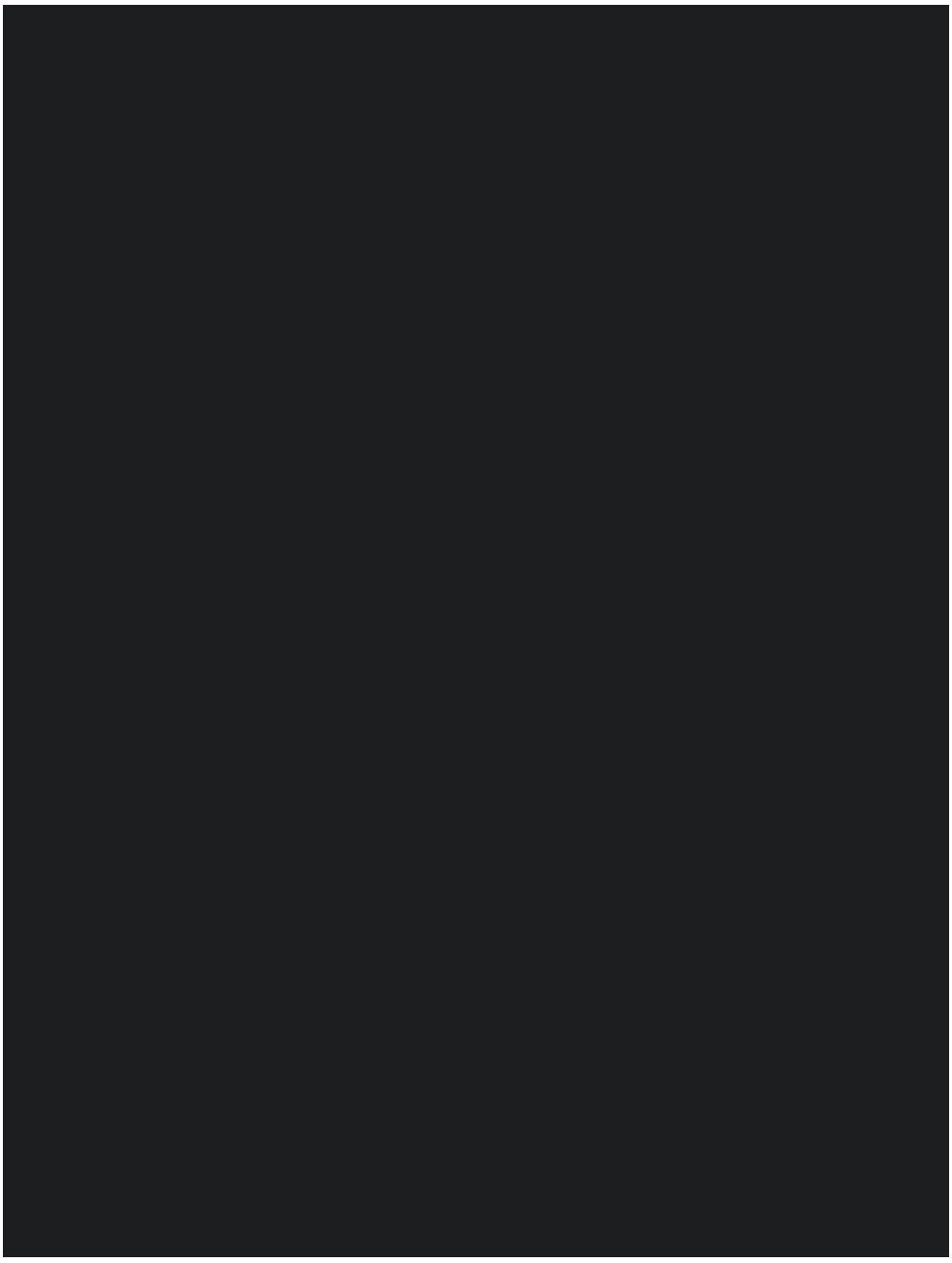


Figure 5: Line 2001 Retrofit Installation

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. Schedule Coordination: The Project Team coordinated the Inspection schedule with a separate SoCalGas Project on Line 2001, which had a project site at the intersection of [redacted]. This allowed the Project Team to utilize their outage window and excavation location to install a reducing tee, [redacted] valve, 40 feet of [redacted], and concrete supports on Line 2001 for dump gas piping during the Inspection of Line 2000 East Phase 3.

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 $6,474,608.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	113,993	479,377	593,371
Contract Costs	574,426	2,042,668	2,617,094
Material	246,669	343,362	590,032
Other Direct Charges	91,687	1,765,683	1,857,370
Total Direct Costs	1,026,776	4,631,091	5,657,867

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	231,349	574,085	805,434
AFUDC	9,040	0	9,040
Property Taxes	2,267	0	2,267
Total Indirect Costs	242,656	574,085	816,741

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,269,432	5,205,176	6,474,608

[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 2000 East Phase 3 [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 $6,474,608.

End of Line 2000 East Phase 3 [redacted] TIMP Project Final Workpaper

I. LINE 2000 PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 6.4 miles from [redacted], California, through agricultural, residential, and commercial areas. The pipeline is routed across Class 1, 2, and 3 locations with 3.9 miles within High Consequence Area(s) (HCAs) and 2.5 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 three sites, of which sites one included an Immediate Repair Condition (IRC). The Project activities were located in Blythe. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $3,337,625.

SoCalGas

Final Workpaper for Line 2000 Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	2000
Segment	Phase 1 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	Blythe
Class	1, 2, 3
HCA Length	3.9 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]
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]

SoCalGas

Final Workpaper for Line 2000 Phase 1 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	Yes		
SRC/IRC	Yes		
SRC/IRC Discovery Date	[redacted]		
Repair Date	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement and 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	2,255,972	1,081,653	3,337,625

B. Maps and Images

Figure 1: Satellite Image of Line 2000 Phase 1 [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 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 2000 Phase 1 [redacted] TIMP Project for Inspection using ILI.
   a. ILI from a span of pipeline over the [redacted].
   b. The Project launched the ILI tools for Line 2000 at an Out of State Operator facility in [redacted] and initiated assessment of the pipeline following the crossing of a span over the [redacted].
   c. The Project required installation of a temporary filter separator and its associated piping 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 contained an IRC and consisted of a 34 foot pipe replacement.

c. Direct Examination Site #3 consisted of a five foot pipe replacement and soft pad repairs.

d. The Project identified one Direct Examination site containing an IRC.

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 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
2000	6.43 miles	[redacted]	[redacted]	[redacted]	No
2000	6.43 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
2000	1	No	No	16 ft	Soft Pad	N/A	O&M
2000	2	Yes	IRC	39 ft	Replacement	34 ft	Capital
2000	3	No	No	35 ft	Replacement and Soft Pad	5 ft	Capital

[redacted]

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2000 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 the Project are as follows:

1. Site Description:
   a. The Inspection started at an Out of State Operator facility and ended at [redacted]
   b. The Project installed a temporary filter separator and its associated piping at [redacted] to facilitate the ILI of Line 2000 Phase 1.
   c. The Inspection included assessment of a pipeline span above the [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: [redacted]
4. Long Seam Type:
   [redacted]

[redacted]

5. Inspection Tools and Technologies: The Project utilized an [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: 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. Constructability: The Project Team determined that due to the weight of the pipeline assessment tools, the existing pipeline span over the [redacted] required additional third-party engineering analysis to confirm the span could support the additional weight during the Inspection. This additional review determined that an [redacted] could not be used due to its weight and an alternative method was utilized.
13. Schedule Delay: The Project Team determined that due to an unidentified system change within the Out of State Operator's pipeline system, the Inspection tool could not be launched, and the first Inspection attempt could not be completed as planned. This resulted in construction schedule delays and impacts to Project costs.

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 2000 Phase 1 [redacted] Project.
   a. Direct Examination Site #1 required soft pad repairs.
   b. Direct Examination Site #2 required the replacement of 34 feet of pipe.
   c. Direct Examination Site #3 required the replacement of five feet of pipe and soft pad repairs.
2. SRC/IRC: Direct Examination Site #2 contained an IRC 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 Line 2000 and the adjacent pipelines cannot be shut-in at the same time to maintain overall system capacity. The Project was designed to complete the shut-in for Direct Examination Site #2 while maintaining service to the adjacent pipelines.
4. Customer Impacts: The Project Team identified six customer taps within the isolation segment and service was maintained using compressed natural gas (CNG).
5. Community Impacts: Direct Examination Sites #1 and #3 were located near residential areas, resulting in impacts to residential driveways. The Project Team coordinated with residents to minimize impacts during construction.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: The Project Team utilized cross compression to remove gas from the isolated segment to an adjacent SoCalGas pipeline.
8. Permit Restrictions: The Project Team obtained an Encroachment Permit from the City of Blythe for Direct Examination Site #2.

9. Land Use: The Project Team obtained two temporary right of entry (TRE) agreements for the Direct Examinations. Access to these areas granted the Project team additional workspace near the Direct Examination sites and a location to utilize as a laydown yard.
10. Traffic Control: The Project Team utilized a standard Traffic Control Plan (TCP) for Direct Examination Site #2 that aligned with permitting restrictions and community impact concerns. The standard TCP prevented additional design costs, reduced schedule duration.
11. Constructability: Due to unforeseen circumstances, the Project Team was required to halt construction activities, causing a delay in project schedule and increased construction costs. These system changes are as follows:
    a. A companywide Restricted Maintenance Operations (RMO) was declared during the construction stage of the Direct Examinations.
    b. Construction schedules for the Direct Examinations were adjusted to coordinate resources with an adjacent project, Line 2000 Phase 2 [redacted] TIMP Project.
    c. Construction schedules for the Direct Examinations were delayed due to schedule coordination with a neighboring project, Line 2001 East, Line 1030, Line 2001 [redacted] TIMP Project.

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

During the Post Assessment step, to the Project Team used the data collected from the Inspection and Direct Examinations 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 selection criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

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

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Table 6: Construction Timeline – IRC

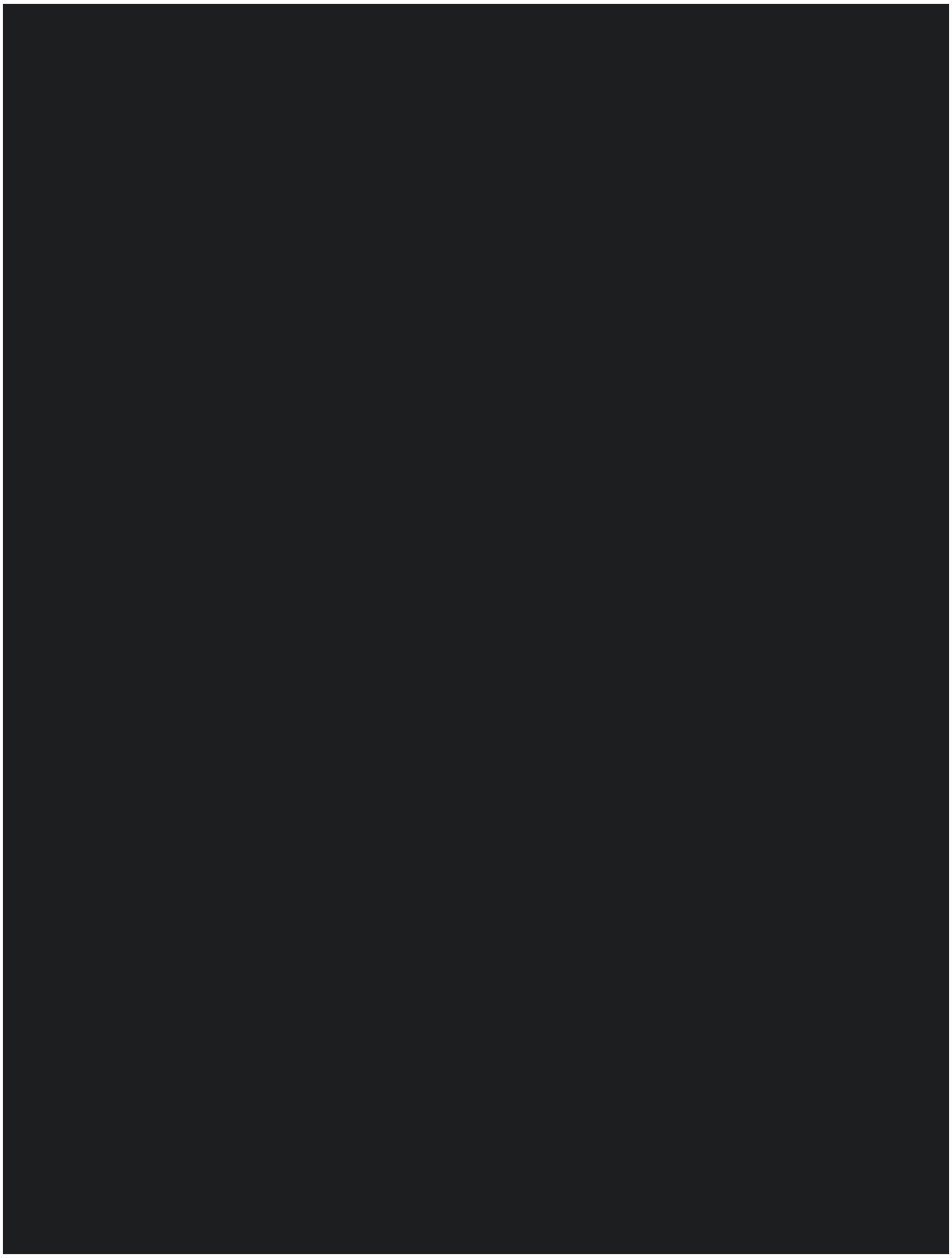
IRC Discovery Date – Site #2	[redacted]	
Repair Date		

Figure 2: Abatement of Pipeline at Direct Examination Site #1

Figure 3: Overview of Direct Examination Site #2

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

Figure 5: Sandblasted Pipeline at Direct Examination Site #3



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 was able to coordinate pipeline isolation and drawdown efforts with other SoCalGas projects Ito minimize pipeline system impacts.
   a. The Project Team utilized the excavation for Direct Examination Site #3 to retrieve a coupon sample which was required by another SoCalGas Project Team.
   b. Another SoCalGas Department completed a Project within [redacted] during the required isolation for Direct Examination Site #2.
   c. Another SoCalGas Department completed a Project near the Line 2000 Phase 1 [redacted] Project during the required isolation for Direct Examination Site #2.
2. Land Use: The Project Team utilized one TRE agreement for construction activities for two Direct Examination Sites, avoiding costs of a separate TRE agreement.
3. Permit Conditions: Permitting was obtained for a standard TCP that met all Project requirements. The use of this standard TCP minimized additional design costs for the Direct Examination portion of this Project.

B. Actual Costs[3]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $3,337,625.

Table 7: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	81,451	157,504	238,955
Contract Costs	1,545,088	416,644	1,961,732
Material	62,655	19,616	82,270
Other Direct Charges	239,997	349,913	589,910
Total Direct Costs	1,929,191	943,677	2,872,868

Table 8: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	304,359	137,976	442,335
AFUDC	17,933	0	17,933
Property Taxes	4,489	0	4,489
Total Indirect Costs	326,780	137,976	464,756

Table 9: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,255,972	1,081,653	3,337,625

[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 2000 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 $3,337,625.

End of Line 2000 Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 2000 PHASE 2 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 Phase 2 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 74.5 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 1.3 miles within High Consequence Area(s) (HCAs) and 73.2 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 14 sites. The Project activities were located in Riverside County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $13,236,553.

SoCalGas

Final Workpaper for Line 2000 Phase 2 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	2000
Segment	Phase 2 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	City of Blythe, Cactus City
Class	1, 2, 3
HCA Length	1.3 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	Multiple values 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]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
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."

SoCalGas

Final Workpaper for Line 2000 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	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 and Replacement
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 and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

SoCalGas

Final Workpaper for Line 2000 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	5
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	6
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	7
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

SoCalGas

Final Workpaper for Line 2000 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	8
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	9
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	10
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	11
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Site	12
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	13
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Soft Pad and Replacement
Within HCA	No
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

SoCalGas

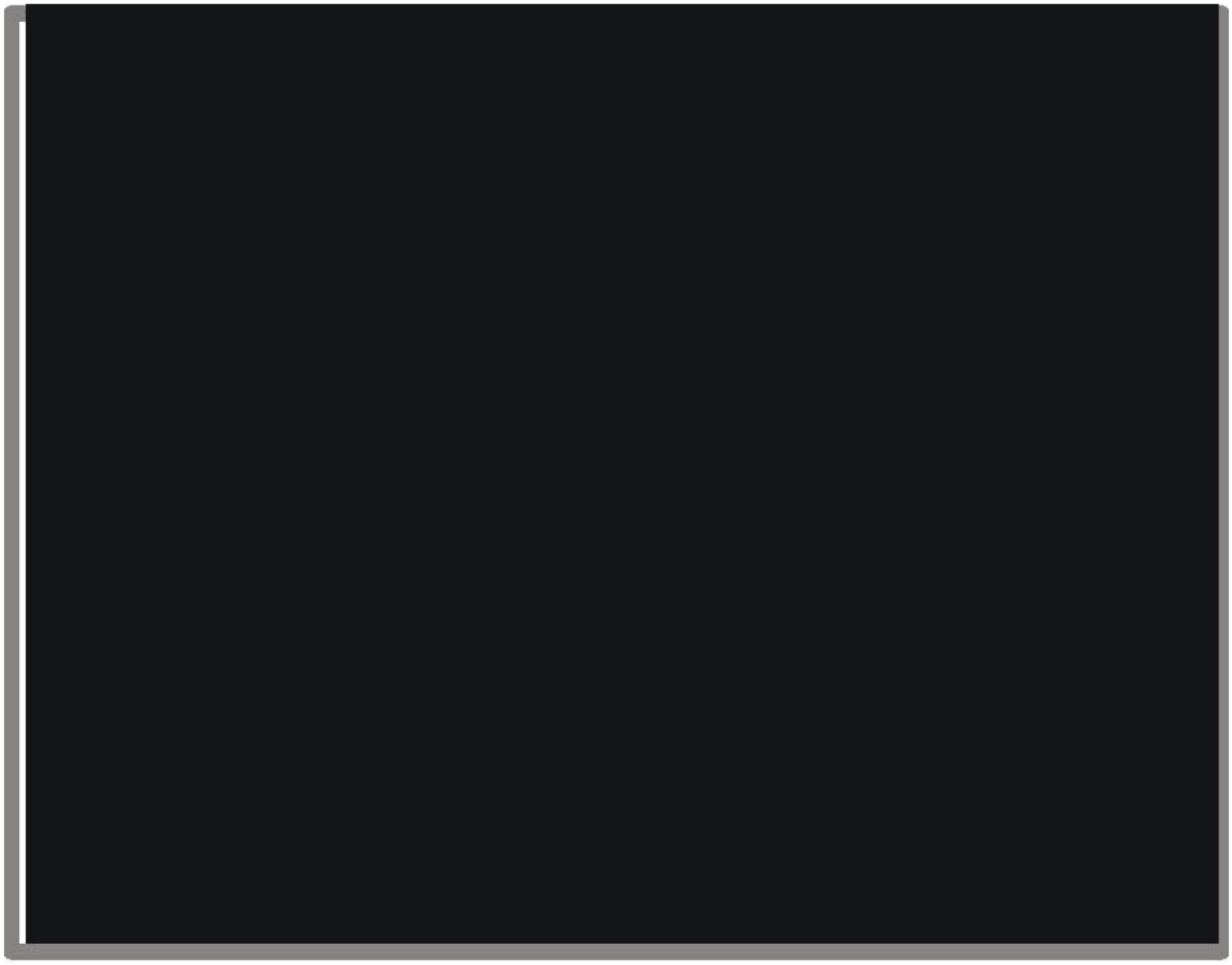
Final Workpaper for Line 2000 Phase 2 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	14		
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	9,365,500	3,871,053	13,236,553

B. Maps and Images

Figure 1: Satellite Image of Line 2000 Phase 2 [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 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 2000 Phase 2 [redacted] 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 installation of temporary associated piping at the launcher site.
   c. The Project required installation of temporary associated piping and a filter separator at the receiver site.
   d. The Project required 17 temporary supports for pipeline spans to withstand the weight of the Inspection tools.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, 14 Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of soft pad repairs and a 34 foot pipeline replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs and a 20 foot pipeline replacement.

c. Direct Examination Site #3 consisted of soft pad repairs and a 19 foot pipeline replacement.
d. Direct Examination Site #4 consisted of soft pad repairs and a 32 foot pipeline replacement.
e. Direct Examination Site #5 consisted of soft pad repairs and a 31 foot pipeline replacement.
f. Direct Examination Site #6 consisted of soft pad repairs and a 10 foot pipeline replacement.
g. Direct Examination Site #7 consisted of soft pad repairs and a 9 foot pipeline replacement.
h. Direct Examination Site #8 consisted of soft pad repairs and a 33 foot pipeline replacement.
i. Direct Examination Site #9 consisted of a 21 foot pipeline replacement.
j. Direct Examination Site #10 consisted of soft pad repairs and a 9 foot pipeline replacement.
k. Direct Examination Site #11 consisted of soft pad repairs and an 18 foot pipeline replacement.
l. Direct Examination Site #12 consisted of soft pad repairs and a 10 foot pipeline replacement.
m. Direct Examination Site #13 consisted of soft pad repairs and an 8 foot pipeline replacement.
n. Direct Examination Site #14 consisted of soft pad repairs.

3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in additional examinations that will be completed after 2023.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI and 14 Direct Examinations.

SoCalGas

Final Workpaper for Line 2000 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
2000	74.5 mi	[redacted]	[redacted]	[redacted]	No
2000	74.5 mi	[redacted]	[redacted]	[redacted]	No
2000	74.5 mi	[redacted]	[redacted]	[redacted]	No
2000	74.5 mi	[redacted]	[redacted]	[redacted]	No

SoCalGas

Final Workpaper for Line 2000 Phase 2 [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
2000	1	No	No	34 ft	Soft Pad and Replacement	34 ft	Capital
2000	2	No	No	23 ft	Soft Pad and Replacement	20 ft	Capital
2000	3	No	No	21 ft	Soft Pad and Replacement	19 ft	Capital
2000	4	No	No	33 ft	Soft Pad and Replacement	32 ft	Capital
2000	5	No	No	38 ft	Soft Pad and Replacement	31 ft	Capital
2000	6	No	No	14 ft	Soft Pad and Replacement	10 ft	Capital
2000	7	No	No	12 ft	Soft Pad and Replacement	9 ft	Capital
2000	8	No	No	38 ft	Soft Pad and Replacement	33 ft	Capital
2000	9	No	No	28 ft	Replacement	21 ft	Capital
2000	10	No	No	12 ft	Soft Pad and Replacement	9 ft	Capital
2000	11	No	No	22 ft	Soft Pad and Replacement	18 ft	Capital
2000	12	No	No	13 ft	Soft Pad and Replacement	10 ft	Capital
2000	13	No	No	11 ft	Soft Pad and Replacement	8 ft	Capital
2000	14	No	No	37 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2000 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 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. 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. A [redacted] were also utilized in preparation for the Inspection.

a. During construction, the Project Team was informed that the [redacted] initially reserved for the Inspection became unavailable for use. Within a week, the Project Team was able to coordinate and reserve a different tool with [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.
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: No identified impacts.
12. Land Use: The Project Team utilized SoCalGas facilities at the launcher and receiver locations as laydown areas for the Project.
13. Traffic Control: No identified impacts.
14. Spans: The Project Team identified 17 pipeline spans that required temporary supports during the Inspection to withstand the weight of the Inspection tools.

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 14 Direct Examination Sites selected for validation of the ILI within the Line 2000 Phase 2 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad repairs and a 34 foot pipeline replacement.

b. Direct Examination Site #2 consisted of soft pad repairs and a 20 foot pipeline replacement.
c. Direct Examination Site #3 consisted of soft pad repairs and a 19 foot pipeline replacement.
d. Direct Examination Site #4 consisted of soft pad repairs and a 32 foot pipeline replacement.
e. Direct Examination Site #5 consisted of soft pad repairs and a 31 foot pipeline replacement.
f. Direct Examination Site #6 consisted of soft pad repairs and a 10 foot pipeline replacement.
g. Direct Examination Site #7 consisted of soft pad repairs and a 9 foot pipeline replacement.
h. Direct Examination Site #8 consisted of soft pad repairs and a 33 foot pipeline replacement.
i. Direct Examination Site #9 consisted of a 21 foot pipeline replacement.
j. Direct Examination Site #10 consisted of soft pad repairs and a 9 foot pipeline replacement.
k. Direct Examination Site #11 consisted of soft pad repairs and a 18 foot pipeline replacement.
l. Direct Examination Site #12 consisted of soft pad repairs and a 10 foot pipeline replacement.
m. Direct Examination Site #13 consisted of soft pad repairs and a 8 foot pipeline replacement.
n. Direct Examination Site #14 consisted of soft pad repairs.
o. The Project coordinated with a separate SoCalGas Project to complete examinations on additional segments of Line 2000 which were planned for replacement. The examinations of these segments were also utilized during the validation process.

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 by isolating the pipeline with minimal 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:
   a. The Project required active biological monitoring at various Direct Examinations locations.
   b. The Project locations cross jurisdictional features[2] regulated by the Colorado River Basin Regional Water Quality Control Boards (RWQCB), and California Department of Fish and Wildlife (CDFW) and required the following:
      i. Colorado River Basin RWQCB Waste Discharge Report for Direct Examination Site #8.
      ii. CDFW Lake and Streambed Alteration Agreement for Direct Examination Site #8.
   c. The Project Team planned for typical abatement activities at the Direct Examination locations for coal tar wrap on the existing pipeline.
8. Permit Restrictions: No identified impacts.

9. Land Use:
   a. The Project Team obtained five Temporary Right of Entry (TRE) agreements from private landowners for Direct Examination Sites #5, #8, #9, #13, and #14.
   b. The Project Team utilized SoCalGas owned facilities in City of Indio and City of Desert Center as laydown yards.
10. Traffic Control: No identified impacts.

[2] Features such as waterways, creeks, and dry washes.

11. Schedule Delay: The Project experienced a delay in obtaining approved Environmental Permits for Direct Examination Site #8 and completed this Direct Examination under a separate mobilization.
12. Constructability:
    a. The Project Team considered various system capacity factors and minimized the construction window by completing examinations of pipeline segments off site.
    b. The Project Team completed most of the Direct Examinations during a separate project's isolation of Line 2000.

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

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

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 - #7 and #9 - #14	
Construction Start Date	[redacted]
Construction Completion Date	
Mobilization 2: Direct Examination Site #8	
Construction Start Date	[redacted]
Construction Completion Date	

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

Figure 2: Direct Examination Site #3

Figure 3: Direct Examination Site #4

Figure 4: Direct Examination Site #7

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. Schedule Coordination and Project Execution: The Project Team coordinated with another SoCalGas project to efficiently complete the Direct Examinations by utilizing their isolation, excavation locations, and replacement segments for the Direct Examinations.
2. Land Use: The Project Team utilized existing SoCalGas locations as laydown yards for the Inspection and Direct Examinations.

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 $13,236,553.

Table 6: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	609,959	430,932	1,040,891
Contract Costs	4,675,841	755,367	5,431,208
Material	18,455	24,321	42,774
Other Direct Charges	2,747,281	2,342,650	5,089,931
Total Direct Costs	8,051,535	3,553,270	11,604,805

Table 7: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	1,291,388	317,779	1,609,167
AFUDC	16,507	5	16,511
Property Taxes	6,070	0	6,070
Total Indirect Costs	1,313,965	317,784	1,631,749

Table 8: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	9,365,500	3,871,053	13,236,553

[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 2000 Phase 2 [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 $13,236,553.

End of Line 2000 Phase 2 [redacted] TIMP Project Final Workpaper

I. LINE 2000 PHASE 3 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 Phase 3 [redacted] Transmission Integrity Management Program (TIMP) Project assessed approximately 75 miles of [redacted] diameter transmission line from [redacted], through agricultural and desert land. The pipeline is routed across Class 1, 2, and 3 locations with 11.4 miles within High Consequence Area(s) (HCAs) and 63.6 miles within non-HCAs. This Workpaper describes the activities and costs associated with five Direct Examinations. The Project activities were located in Riverside County. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Workpaper is $2,387,999.

SoCalGas

Final Workpaper for Line 2000 Phase 3 [redacted] TIMP Project

Table 1: General Project Information

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

Table 1: General Project Information (continued)

Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Remediation Type	Soft Pad and Replacement		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start			
Construction Completion			
Direct Examination Details			
Site	5		
Examination ID	[redacted]		
Remediation Type	Soft Pad		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start			
Construction Completion			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,971,108	416,890	2,387,999

B. Maps and Images

Figure 1: Satellite Image of Line 2000 Phase 3 [redacted] TIMP Project

II. ENGINEERING, DESIGN, AND CONSRUCTABILITY

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, Direct Examination, and Post-Assessment. This Workpaper outlines construction activities during the Assessment process that occurred during the Direct Examinations.

Prior to initiating execution of the Project, 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 2000 Phase 3 [redacted] TIMP Project for Inspection using In-Line Inspection (ILI), activities related to the ILI were completed before the TY 2019 General Rate Case (GRC) cycle.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, six Direct Examination Sites were identified for validation. Activities for one of the six Direct Examinations were completed before the TY 2019 General Rate Case (GRC) cycle. This Workpaper describes activities for five Direct Examinations.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of soft pad repairs and a 34 foot pipe replacement.
   c. Direct Examination Site #3 consisted of a 72 foot pipe replacement.
   d. Direct Examination Site #4 consisted of soft pad repairs and a 34 foot pipe replacement.
   e. Direct Examination Site #5 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 five Direct Examinations.

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
2000	1	No	No	36 ft	Soft Pad	N/A	O&M
2000	2	No	No	42 ft	Soft Pad and Replacement	34 ft	Capital
2000	3	No	No	81 ft	Replacement	72 ft	Capital
2000	4	No	No	41 ft	Soft Pad and Replacement	34 ft	Capital
2000	5	No	No	24 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas completed the Inspection for the Line 2000 Phase 3 [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. Engineering Assessment: There were six Direct Examination Sites selected for validation within the Line 2000 Phase 3 [redacted] TIMP Project. Activities for one of the six Direct Examinations were completed before the TY 2019 GRC cycle. This Workpaper describes activities for five Direct Examinations.
   a. Direct Examination Site #1 required soft pad repairs.
   b. Direct Examination Site #2 required soft pad repairs and a 34 foot pipe replacement.
   c. Direct Examination Site #3 required a 72 foot pipe replacement.
   d. Direct Examination Site #4 required soft pad repairs and a 34 foot pipe replacement.
   e. Direct Examination Site #5 required soft pad repairs.
2. SRC/IRC: There were no Safey Related Conditions (SRCs) or Immediate Repair Conditions (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 for the Project could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: No identified impacts.
6. Substructures: No identified impacts.
7. Environmental:
   a. The Project required adequate fencing near excavation sites as well as tortoise training for all construction personnel.
   b. The Project obtained an environmental permit from the California Department of Fish and Wildlife for Direct Examination Site #5.
   c. The Project required compliance with the company's programmatic Clean Water Act Section 401 Water Quality Certification from the Colorado River Basin Regional Water Quality Control Board (RWQCB) for Direct Examination Site #5.
8. Permit Restrictions: No identified impacts.

9. Land Use:
   a. The Project Team obtained temporary right of entry (TRE) agreements for four Direct Examination Sites located within private property. TRE's were obtained for Direct Examination Sites #1, #2, #3 and #5.
   b. The Project Team abided by an existing SoCal Edison Right of Way for Direct Examination Site #5.
   c. The Project Team secured a nearby location to utilize as a laydown yard for Direct Examination Sites #1, #3, #4, and #5.
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 Contractor that best met the selection criteria for this Project.

B. Construction Schedule

Table 3: Construction Timeline – Direct Examination

Mobilization 1 – Site #2	
Construction Start Date	[redacted]
Construction Completion Date	
Mobilization 2 – Sites #1, #3, #4, #5	
Construction Start Date	[redacted]
Construction Completion Date	

Figure 2: Direct Examination Site #1

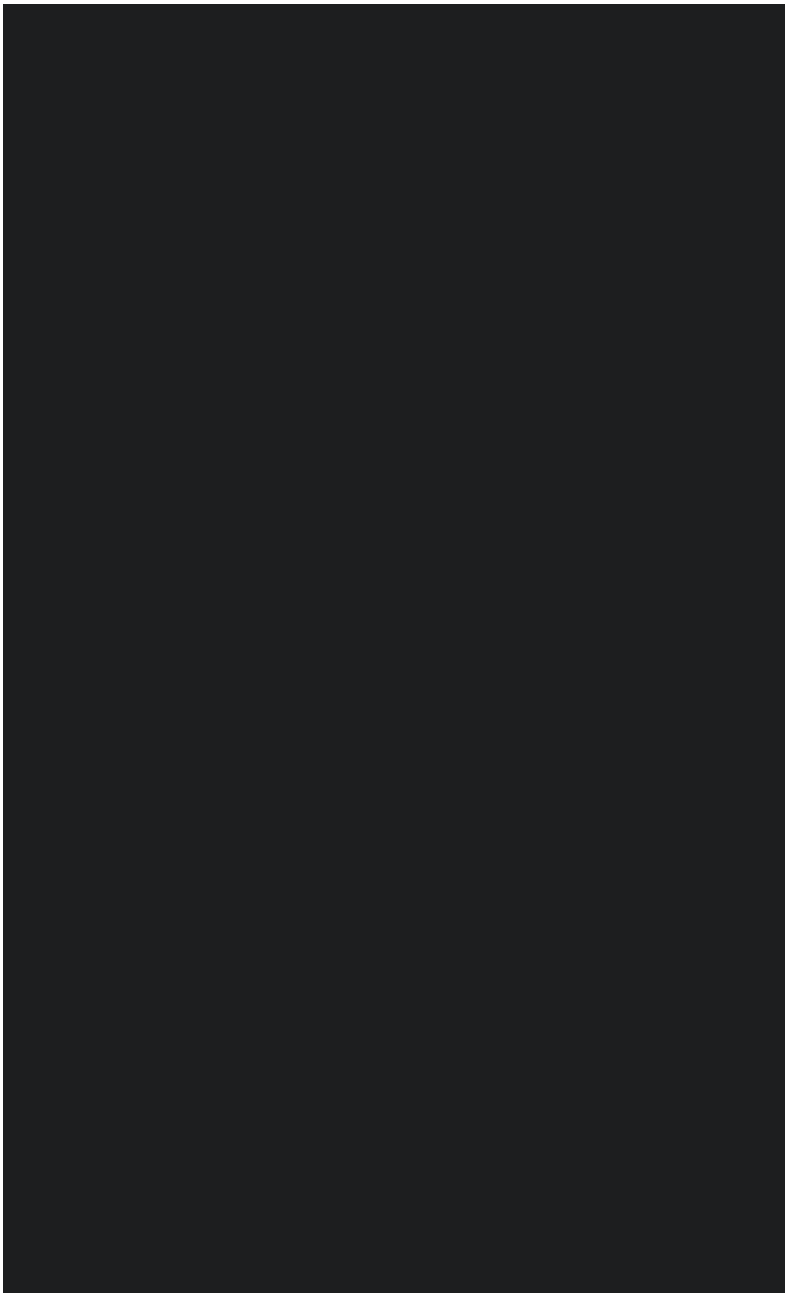


Figure 3: Cylindrical Cut Out for Direct Examination Site #2

Figure 4: Direct Examination Site #3

Figure 5: Direct Examination Site #4

Figure 6: Direct Examination Site #5

C. Commissioning and Site Restoration

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

IV. 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 records, 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 one laydown yard location for four Direct Examination Sites completed in this Project scope, avoiding costs for separate laydown yards.

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 $2,387,999.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	114,008	6,375	120,383
Contract Costs	1,140,145	86,124	1,226,269
Material	8,473	28,454	36,927
Other Direct Charges	402,611	286,189	688,800
Total Direct Costs	1,665,238	407,142	2,072,379

Table 5: Actual Indirect Costs[3]

Indirect Costs$)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	303,324	9,749	313,072
AFUDC	1,140	0	1,140
Property Taxes	1,408	0	1,408
Total Indirect Costs	305,871	9,749	315,619

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,971,108	416,890	2,387,999

[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 2000 Phase 3 [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 $2,387,999.

End of Line 2000 Phase 3 [redacted] TIMP Project Final Workpaper

I. LINE 2000 PHASE 6 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 Phase 6 [redacted] the Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 10.4 miles from [redacted], through residential neighborhoods and commercial areas. The pipeline is routed across [redacted] locations entirely within High Consequence Areas (HCAs). This Workpaper describes the activities and costs associated with a Transmission Integrity Management Program (TIMP) Assessment that includes one Direct Examination. This Project activities were located in the City of Commerce. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded Cost of the Project is $3,117,257.

SoCalGas

Final Workpaper for Line 2000 Phase 6 [redacted] TIMP Project

Table 1: General Project Information

Direct Examination 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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	3,117,257	0	3,117,257

B. Maps and Images

Figure 1: Satellite Image of Line 2000 Phase 6 [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 occurred during the Direct Examination phase.

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 2000 Phase 6 [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, nine Direct Examination Sites were identified for validation. Activities for eight of the nine Direct Examinations were completed under a previous GRC. This Workpaper describes activities for one Direct Examination.
   a. Direct Examination Site #1 consisted of a 236 foot pipe replacement.
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 one Direct Examination.

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
2000	1	Yes	No	36 ft	Replacement	236 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas completed the Inspection for the Line 2000 Phase 6 [redacted] TIMP Project before the TY 2019 GRC cycle.

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

Continuing the planning process for the Line 2000 Phase 6 [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: The Project Team selected nine Direct Examination sites for validation within the Line 2000 Phase 6 [redacted] TIMP Project. Activities for eight of the nine Direct Examinations were completed under a previous GRC. This Workpaper describes activities for one Direct Examination.
   a. Direct Examination Site #1 consisted of a 236 foot pipe replacement. The pipeline at this site was within casing which required replacement of the pipeline to complete the validation activities offsite.
2. SRC/IRC: There were no SRCs or IRCs during the Direct Examination.

3. Substructures: The Project Team identified existing utilities at the proposed trench location for the Direct Examination to be addressed. To avoid impacts to the existing utilities, a full replacement using jack and bore activities was required for this Project. Existing features at the Project location impacted the excavation locations for the jack and bore pipeline installation.
4. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the replacement required for the Direct Examination could be completed by isolating a segment of pipeline. The Project Team coordinated with various stakeholders to minimize impacts to the overall pipeline system.
5. Customer Impacts: The Project Team identified a total of seven taps within the isolated segment required for Direct Examination.
   a. Service was maintained to three customer taps using compressed natural gas (CNG).
   b. Four SoCalGas facility taps were not impacted.
6. CNG Support Plan: The Project Team prepared a CNG plan for three customer taps requiring continued service. This plan included CNG equipment setup at each tap site, installation of bypass pipelines, and active monitoring of the pipeline system during construction activities.
7. Community Impacts: Direct Examination Site #1 was located in a highly industrial area and caused delays in traffic.
8. Environmental: No identified impacts.
9. Permit Restrictions: The Project Team obtained an Encroachment Permit from the City of Commerce for jack and bore construction activities required near the intersection of [redacted]. The Encroachment Permit was required for two street excavations that would facilitate the installation of replacement pipe for Direct Examination Site #1.

10. Traffic Control: The Project Team obtained a Traffic Control Plan (TCP) for the Project site which was approved by the City of Commerce. The TCP included flaggers to conduct the flow of traffic during construction hours, overnight traffic control and steel plates to cover open excavations. The TCP also required semi-truck through-traffic to be identified and slowed down due to open excavations at the Project site.
11. Land Use: The Project Team secured a nearby location to utilize as an overnight laydown yard. The storing of construction equipment during non-working hours was required due to guidelines set in the City of Commerce permit.

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

Construction Start Date	[redacted]
Construction Completion Date	

Figure 2: Boring Pit Excavation for Direct Examination Site #1

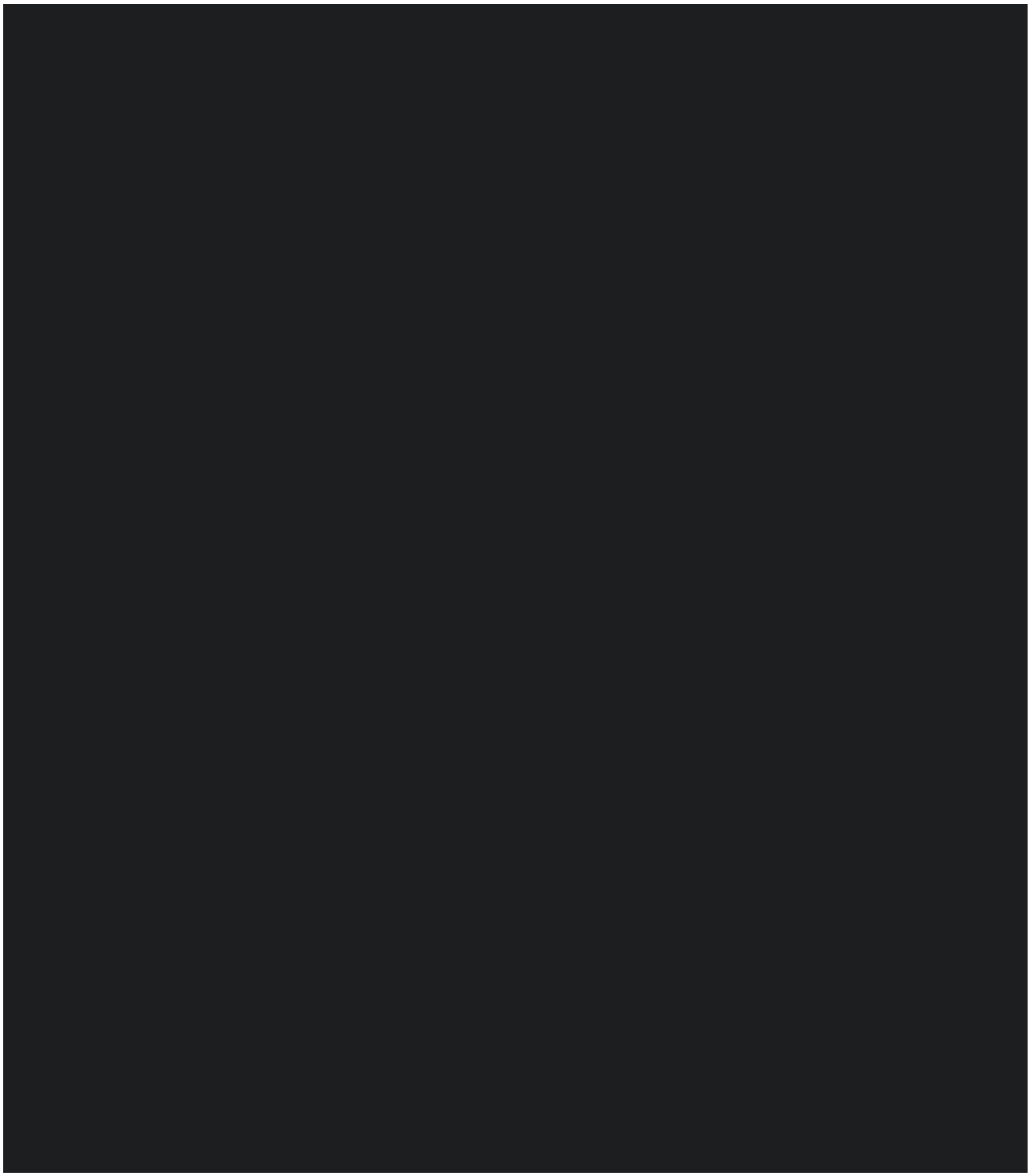


Figure 3: Receiving Pit Excavation for Direct Examination Site #1

Figure 4: Offsite Validation Activities for Direct Examination Site #1

Figure 5: Direct Examination Site #1 Pipe Removal

Figure 6: Direct Examination Site #1 Pipe Removal

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 $3,117,257.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	231,630	0	231,630
Contract Costs	1,835,028	0	1,835,028
Material	39,120	0	39,120
Other Direct Charges	476,181	0	476,181
Total Direct Costs	2,581,960	0	2,581,960

Table 5: Actual Indirect Costs[3]

Indirect Costs/Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	502,377	0	502,377
AFUDC	24,527	0	24,527
Property Taxes	8,393	0	8,393
Total Indirect Costs	535,298	0	535,298

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	3,117,257	0	3,117,257

[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 2000 Phase 6 [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 $3,117,257.

End of Line 2000 Phase 6 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 2000 Phase 6 [redacted] TIMP Project

I. LINE 2000 PHASE 6 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 Phase 6 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 10.4 miles from [redacted], through residential neighborhoods and commercial areas. The Project also assessed a segment of Line 2000 Phase 6 using the [redacted] assessment method. The pipeline is routed across [redacted] locations entirely within High Consequence Areas (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 two sites, of which one site contained an Immediate Repair Condition (IRC). The Project activities were located in the cities of Los Angeles, Commerce, and Santa Fe Springs. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $5,073,024.

SoCalGas

Final Workpaper for Line 2000 Phase 6 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	2000
Segment	Phase 6 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	Los Angeles, Commerce, Santa Fe Springs
Class	[redacted]
HCA Length	10.4 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	
Final Tool Run Date	
Inspection Due Date	

Final Workpaper for Line 2000 Phase 6 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	1		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Band		
Within HCA	Yes		
SRC/IRC	Yes		
SRC/IRC Discovery Date	[redacted]		
Repair Date	[redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	[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]		
Due Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	2,221,089	2,851,934	5,073,024

B. Maps and Images

Figure 1: Satellite Image of Line 2000 Phase 6 [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 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 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 2000 Phase 6 for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] to a permanent receiver site within [redacted].
   b. An additional temporary filter separator was installed to facilitate the ILI.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI, two Direct Examination sites were identified to either assess pipeline segments that could not accommodate an ILI tool or for validation .
   a. Direct Examination Site #1 consisted of a band repair.
   b. Direct Examination Site #2 consisted of a 6-foot replacement.
   c. The Project identified one Immediate Repair Condition (IRC).
   d. Additional Direct Examination sites were identified for validation and will be addressed after 2023.[1]

[1] Activities related to these Direct Examinations will be complete in a future General Rate Case (GRC). Cost and activities within this report are summarized to align with A.17-10-008.

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 and two Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
2000	10.4 mi	[redacted]	[redacted]	[redacted]	No
2000	10.4 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
2000	1	Yes	Yes	24 ft	Band	N/A	Capital
2000	2	Yes	No	26 ft	Replacement	6 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2000 Phase 6 [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 2000 Phase 6 [redacted] TIMP Project

1. Site Description: The Project completed the ILIs from a temporary launcher site within [redacted] to a permanent 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: The Project utilized a combination tool with [redacted] tool 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 a full curtailment of a non-core Electric Generation (EG) customer was required to facilitate the Inspection.
7. Customer Impacts: The Project Team determined that one customer required a full curtailment while other customers could be maintained through alternate sources of feed during the assessment. The Project Team notified these customers of the curtailment and alternate sources of feed in advance of the Inspection.

[redacted]

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 was able to utilize company property as a laydown yard and workspace.
13. Traffic Control: No identified impacts.
14. Schedule Delay: The Project was delayed in order to prepare and implement a liquid mitigation plan.
15. Constructability: The Project required an additional temporary filter separator at [redacted] and [redacted] to facilitate the ILI.

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 this 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 2000 Phase 6 [redacted] TIMP Project.
      i. Direct Examination Site #2 consisted of a 6-foot replacement.
      ii. Direct Examination Site #2 was selected to assess 26 feet of a pipe segment for SCC.
   b. There was one Direct Examination Site selected for validation of the ILI within the Line 2000 Phase 6 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of a band repair.

ii. Additional Direct Examination sites were identified for validation and will be addressed after 2023.

2. SRC/IRC: Direct Examination Site #1 was identified as an IRC 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 that a full curtailment of a non-core Electric Generation (EG) customer was required to facilitate the Inspection.
4. Customer Impacts: The Project Team determined that customer service could be maintained to core and non-core customers through alternate sources of feed during the assessment.
5. Community Impacts: The Project resulted in traffic impacts and occasional noise due to the location of the Direct Examination Sites.
6. Substructures: The Project Team identified an unmarked utility during the excavation of Direct Examination Site #1 and included it in the Project design.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained the following permits:
   a. Direct Examination Site #1 required an Excavation Permit from the City of Santa Fe Springs which restricted working hours to weekdays from 9 AM to 3:30 PM.
   b. Direct Examination Site #2 required a City of Commerce Encroachment Permit.
9. Land Use: The Project Team utilized company property for a laydown yard.

10. Traffic Control:
    a. Direct Examination Site #1 required and obtained an approved Traffic Control Plan (TCP) from the City of Santa Fe Springs that included cones and signage to close one lane on [redacted].

b. Direct Examination Site #2 required and obtained an approved TCP from the City of Commerce that included flaggers, barricades, cones, and signage to close one lane on [redacted].

11. Constructability: An electric utility pole was located near Direct Examination Site #2. This required the Project Team to coordinate with the electric utility company to install temporary power poles next to the excavation 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.

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

Table 6: Construction Timeline – IRC

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

Figure 2: Receiver and Filter Separator at [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[3]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $5,073,024.

Table 7: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	206,504	509,663	716,167
Contract Costs	1,269,198	961,693	2,230,891
Material	48,931	179,484	228,415
Other Direct Charges	287,629	712,590	1,000,219
Total Direct Costs	1,812,262	2,363,430	4,175,692

Table 8: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	407,113	488,504	895,617
AFUDC	606	0	606
Property Taxes	1,109	0	1,109
Total Indirect Costs	408,828	488,504	897,332

Table 9: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,221,089	2,851,934	5,073,024

[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 2000 Phase 6 [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 $5,073,024.

End of Line 2000 Phase 6 [redacted] TIMP Project Final Workpaper

I. LINE 2000 PHASES 4 AND 5 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 Phases 4 and 5 [redacted] the Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 57.6 miles from [redacted], through residential neighborhoods, agricultural land, and commercial areas. The pipeline is routed across Class 1, 2, and 3 locations with 39.9 miles within High Consequence Area(s) (HCAs) and 17.7 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 Examination made to one site. The Project activities were located in Moreno, Yorba Linda, and Santa Fe Springs. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $4,124,851.

SoCalGas

Final Workpaper for Line 2000 Phases 4 and 5 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	2000		
Segment	Phases 4 and 5 [redacted]		
Inspection Type	[redacted] Tool		
Location	Moreno Valley and Santa Fe Springs		
Class	1, 2, and 3		
HCA Length	39.9 miles		
Vintage	Multiple vintages from [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values from [redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Final Tool Run Date	[redacted]		
Inspection Due Date	[redacted]		
Direct Examination Details			
Site	1		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	2,879,416	1,245,435	4,124,851

B. Maps and Images

Figure 1: Satellite Image of Line 2000 Phases 4 and 5 [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 project 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 2000 Phases 4 and 5 [redacted] TIMP Project for Inspection using ILI.
   a. ILI from an existing permanent launcher within [redacted] to an existing permanent receiver within [redacted].
   b. The Project required a temporary filter separator and associated piping installed within [redacted].
   c. The Project installed six temporary span supports to withstand the weight of the Inspection tools.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, one Direct Examination site was identified for validation.
   a. Direct Examination Site #1 consisted of a 98 foot pipeline replacement.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examination following the Inspection resulted in no additional examinations.

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

Table 2: Final Inspection Project Scope - ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
2000	57.6 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
2000	1	Yes	No	113 ft	Replacement	98 ft	Capital

B. Engineering, Design, and Planning Factors – Inspection

SoCalGas initiated the planning process for the Line 2000 Phases 4 and 5 [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:

[redacted]

SoCalGas

Final Workpaper for Line 2000 Phases 4 and 5 [redacted] TIMP Project

1. Site Description: The Inspection started at a permanent launcher site within [redacted]. The Project installed temporary piping at both launcher and receiver sites to facilitate the Inspection.
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 combination tool 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 required additional coordination with neighboring projects to ensure system capacity.
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.

[redacted]

11. Permit Restrictions: No identified impacts.
12. Land Use: The Project Team utilized [redacted] as laydown yards.
13. Traffic Control: No identified impacts.
14. Spans: The Project Team installed six temporary span supports to withstand the weight of Inspection tools.

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 was one Direct Examination Site selected for validation within the Line 2000 Phases 4 and 5 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 98 foot pipeline replacement.
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 identified three customer taps within the isolation segment. The three customer taps would require compressed natural gas (CNG) to maintain supply of gas to customers during the isolation. The Project Team coordinated with a neighboring project to ensure all gas supply to customers was maintained during the isolation.
4. Customer Impacts: The Project Team coordinated with a neighboring project to provide service to customers impacted by the project scope.
5. Community Impacts: The Project was located near homes on [redacted], causing noise and visual impacts to the community.

6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: The Project Team identified the project location as a habitat for the coastal California gnatcatcher, requiring active biological monitoring throughout the duration of the Project. The Project also required surveying of oak trees near the Direct Examination site.
8. Land Use:
   a. The Project Team obtained a temporary right of entry (TRE) to access the Direct Examination Site location.
   b. The Project Team obtained a TRE from the Army Corps of Engineers to use nearby private property for a laydown yard.
   c. During construction, the Project Team learned that the City of Yorba Linda had an existing easement within [redacted], requiring the Project Team to obtain an additional permit from the City of Yorba Linda.
9. Permit Restrictions: The Project Team obtained a Noise Permit and Encroachment Permit from the City of Yorba Linda to perform work within their existing easement in [redacted]. The permits required trail closure signs and restricted work hours. The permits also required the Project to abide by strict restoration and landscaping guidelines, including the planting of nine mature trees.
10. Traffic Control: No identified impacts.
11. Schedule Delays: The Project Team experienced delayed schedules due to system constraints and neighboring SoCalGas projects.

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

During the Post-Assessment step, the Project Team used the data collected from the Inspection and Direct Examination to determine the effectiveness of the Inspection and evaluate the tool's performance to review the integrity of the pipeline, identify potential

required examinations or remediations, and to establish the next reassessment interval for the threats assessed. This analysis resulted in no additional examinations.

III. CONSTRUCTION

A. Construction Contractor Selection

Following completion of the engineering, design, and planning activities described above, 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

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Launcher Site within [redacted]

Figure 3: Receiver Site within [redacted]

Figure 4: Direct Examination Site #1

Figure 5: Direct Examination Site #1 Overview

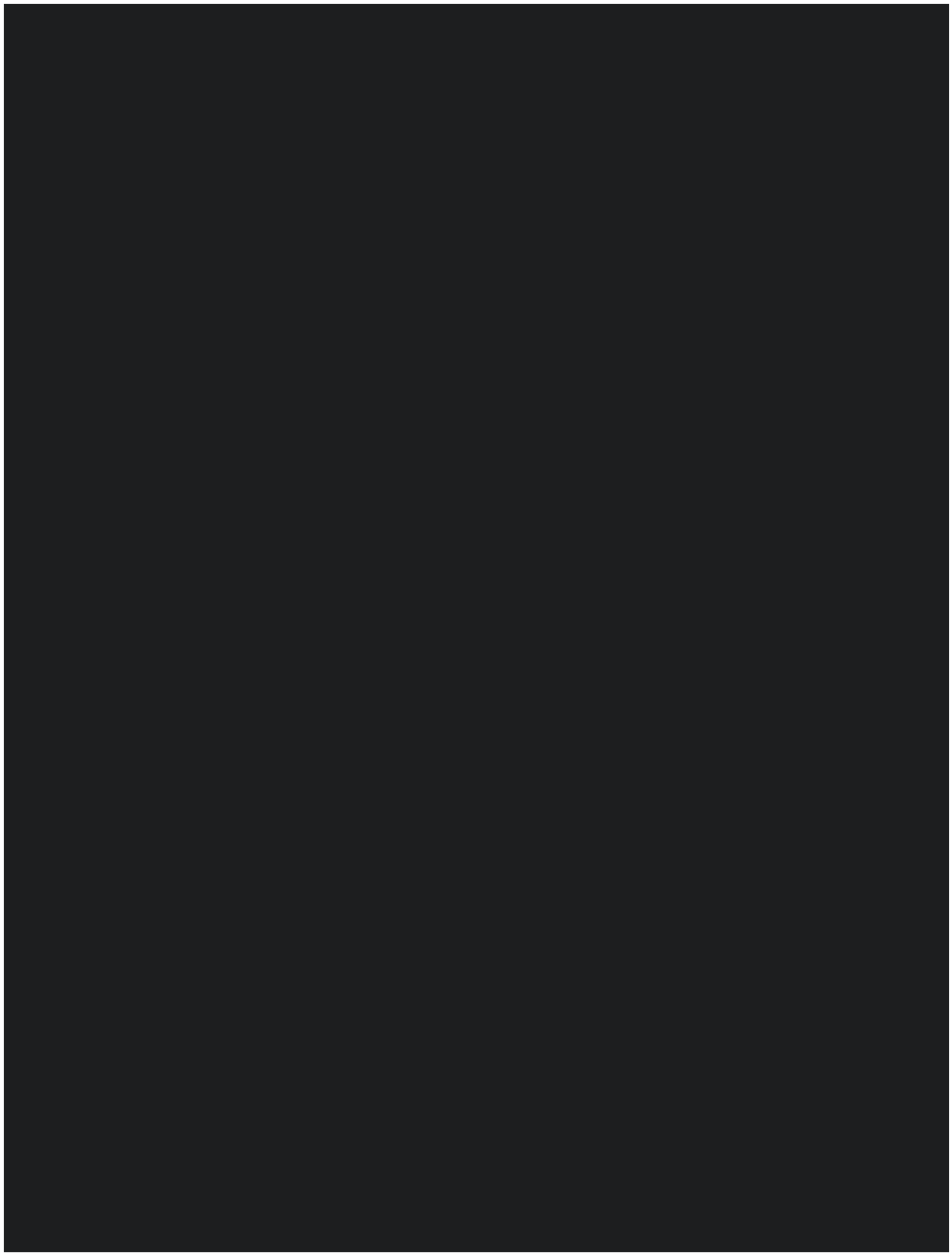
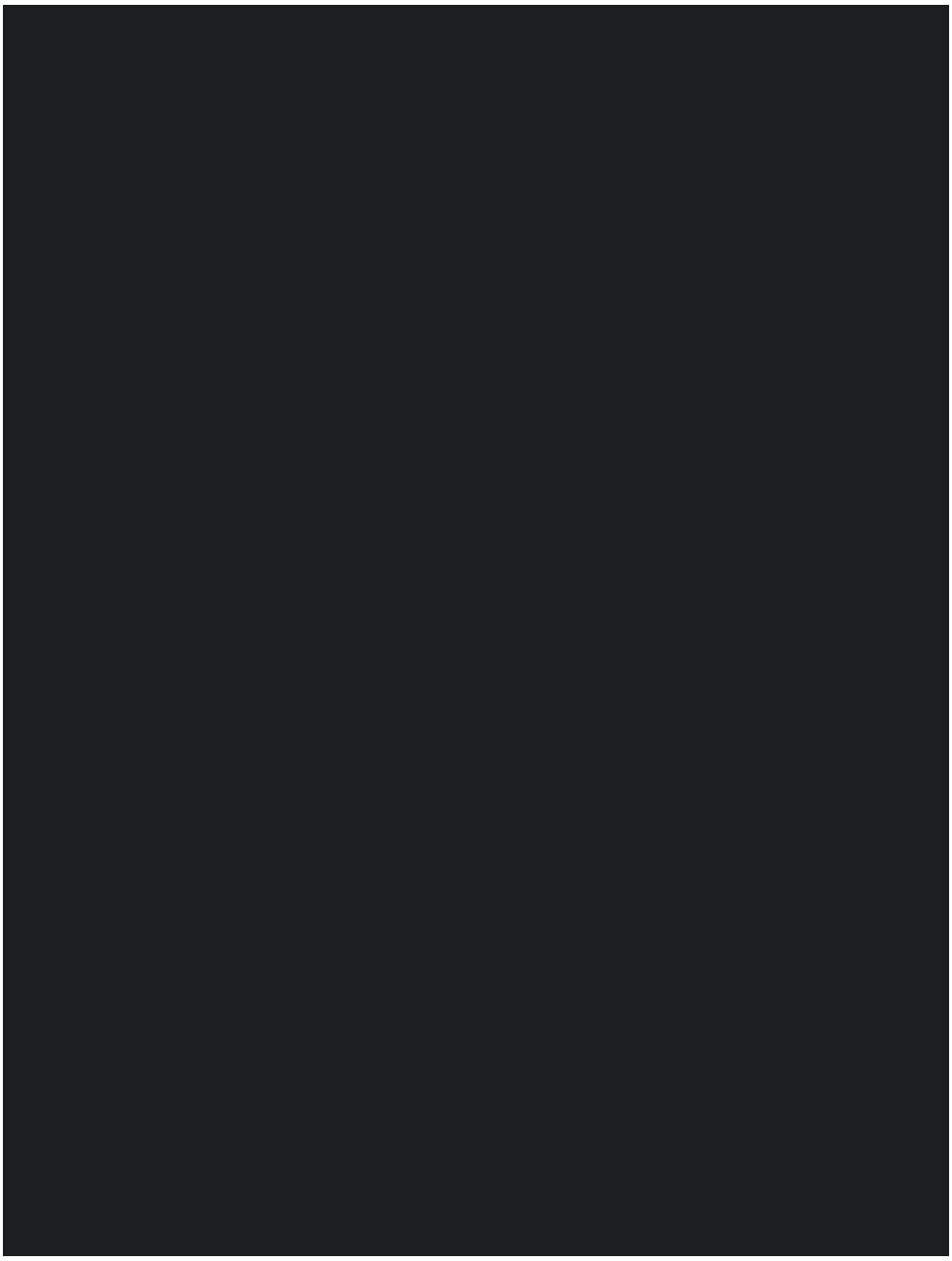


Figure 6: Direct Examination Site #1 Repair Overview



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. Bundling of Projects: The Project Team coordinated with other SoCalGas projects to ensure project activities for the Direct Examination could be completed using one isolation of Line 2000.
2. Land Use: The Project Team utilized existing SoCalGas owned stations as laydown yards for the Inspection, reducing project costs.

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 $4,124,851.

Table 6: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	232,553	153,906	386,460
Contract Costs	1,666,743	403,296	2,070,040
Material	66,698	36,951	103,648
Other Direct Charges	433,089	521,794	954,883
Total Direct Costs	2,399,083	1,115,947	3,515,031

Table 7: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	464,654	129,488	594,142
AFUDC	13,052	0	13,052
Property Taxes	2,627	0	2,627
Total Indirect Costs	480,333	129,488	609,820

Table 8: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	2,879,416	1,245,435	4,124,851

[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 2000 Phases 4 and 5 [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 $4,124,851.

End of Line 2000 Phases 4 and 5 [redacted] TIMP Project Final Workpaper

I. LINE 2000 WEST PHASE 3 [redacted] TIMP PROJECT

A. Background and Summary

Line 2000 West Phase 3 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 16.1 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 7.7 miles within High Consequence Area(s) (HCAs) and 8.4 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 2 sites, that included 2 Safety Related Conditions (SRCs). The Project activities were located in [redacted]. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $6,029,788[1].

Final Report for Line 2000 West Phase 3 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	Line 2000 West
Segment	Phase 3 – [redacted]
Inspection Type	[redacted] ILI Tools
Location	Banning and Moreno Valley
Class	1, 2, 3
HCA Length	7.7 miles
Vintage	Multiple vintages ranging from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values ranging 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]

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]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	3,090,932	2,938,855	6,029,788

B. Maps and Images

Figure 1: Satellite Image of Line 2000 West Phase 3 [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 report 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 2000 West Phase 3 for Inspection using ILI.
   a. ILI from a temporary launcher site within [redacted] to a permanent receiver site within [redacted].
   b. The Project required a temporary launcher barrel and associated piping at the launcher site. The Project also required permanent retrofits at this location to facilitate the Inspection.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, nine Direct Examination sites were identified for validation. Seven of those will be addressed after 2023, outside the scope of this proceeding[2].
   a. Direct Examination Site #1 consisted of soft pad repairs and a replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs and a replacement.
   c. The Project identified 2 Safety Related Conditions (SRCs).

[2] Cost and activities within this report are summarized to align with A.17-10-008

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 two Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
2000 West	16 mi	[redacted]	[redacted]	[redacted]	Yes
2000 West	16 mi	[redacted]	[redacted]	[redacted]	Yes
2000 West	16 mi	[redacted]	[redacted]	[redacted]	Yes
2000 West	16 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
2000 West	1	No	Yes	110 ft	Soft Pad and Replacement	93 ft	Capital
2000 West	2	No	Yes	100 ft	Soft Pad and Replacement	82 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2000 West Phase 3 [redacted] Project by performing a Pre-Assessment engineering analysis to determine

existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The ILI for Line 2000 West Phase 3 was conducted from a temporary launcher site within [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]
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. Inspection Retrofits: The Project required a temporary launcher barrel and associated piping at the launcher site. The Project also required permanent retrofits at this location to facilitate the Inspection.
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 shut-in one service due to a customer request. No additional support was needed.

9. Community Impacts: The Project had minimal community impact because the sites were in an area that did not require traffic control.
10. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
11. Environmental: No identified impacts.
12. Permit Restrictions:
    a. City of Banning Public Works Permit.
    b. Federal Aviation Administration Clearance.
13. Land Use: The Project Team acquired a Temporary Right of Entry (TRE) Agreement between SCG and a municipal corporation for a laydown yard located near [redacted]
14. Traffic Control: The Project Team did not identify any traffic control needs at the site.

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

Continuing the planning process for the Line 2000 West 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. Engineering Assessment:
    a. There were nine Direct Examination Sites selected for validation of the ILI within the Line 2000 West Phase 3 [redacted] TIMP Project.
        i. Direct Examination Site #1 consisted of soft pad repairs and a replacement.
        ii. Direct Examination Site #2 consisted of soft pad repairs and a replacement.
        iii. Direct Examination Sites #3-9 will be addressed after 2023, outside of the scope of this proceeding.
2. SRC/IRC: Direct Examination Site #1 and #2 resulted in SRCs and required expedited project schedules.

3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: No identified impacts.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: The Project required biological monitoring at the dig locations.
8. Permit Restrictions: No identified impacts.
9. Land Use: The Project Team obtained two Temporary Right of Entry (TRE) Agreements from private landowners to access the dig sites.
10. Traffic Control: No identified impacts.
11. Constructability: The Project Team completed a cold tie-in operation due to the difficult terrain where the digs were located. This allowed for a safer tie-in operation.

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

The Project Team will use 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 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		
Inspection Due Date		

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

Table 6: Construction Timeline – SRC

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

Figure 2: Dig Site #1

Figure 3: Dig Site #2

C. Commissioning and Site Restoration

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

IV. PROJECT COSTS

A. Cost Efficiency Actions

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.

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 $6,029,788.

Table 7: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	271,463	284,111	555,574
Contract Costs	1,823,537	1,136,573	2,960,110
Material	206,136	144,097	350,233
Other Direct Charges	226,845	1,073,594	1,300,439
Total Direct Costs	2,527,981	2,638,374	5,166,355

Table 8: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	555,520	300,481	856,001
AFUDC	6,212	0	6,212
Property Taxes	1,220	0	1,220
Total Indirect Costs	562,952	300,481	863,432

Table 9: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	3,090,932	2,938,855	6,029,788

[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 prudently executing the Line 2000 West Phase 3 [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 report findings of Line 2000 West in the cities of Banning and Moreno Valley. The total loaded cost of the Project is $6,029,788.

End of Line 2000 West Phase 3 [redacted] TIMP Project Final Report

I. LINE 2001 EAST, LINE 1030, AND LINE 2001 WEST - [redacted] TIMP PROJECT

A. Background and Summary

Line 2001 East, Line 1030, and Line 2001 West - [redacted] Transmission Integrity Management Program (TIMP) Project assessed [redacted] diameter transmission lines that run approximately 81.5 miles from [redacted] Station. The pipelines are routed across Class 1, 2, and 3 locations with 5.3 miles within High Consequence Areas (HCAs) and 76.2 miles within non-HCAs. This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to nine sites, of which sites six contained Safety Related Conditions (SRCs). The Project activities were located in Riverside County. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $13,095,643.

SoCalGas

Final Workpaper for Line 2001 East, Line 1030, and Line 2001 West - [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	2001 East, 1030, 2001 West
Segment	[redacted]
Inspection Type	[redacted] ILI tools
Location	Riverside County
Class	1, 2, 3
HCA Length	5.3 miles
Vintage	Multiple vintages from [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]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	[redacted]
SMYS *(confidential)*	[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."

SoCalGas

Final Workpaper for Line 2001 East, Line 1030, and Line 2001 West - [redacted] TIMP Project

Table 1: General Project Information (Continued)

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

SoCalGas

Final Workpaper for Line 2001 East, Line 1030, and Line 2001 West - [redacted] TIMP Project

Table 1: General Project Information (Continued)

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

SoCalGas

Final Workpaper for Line 2001 East, Line 1030, and Line 2001 West - [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	6
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	[redacted]
SMYS *(confidential)*	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Direct Examination Details	
Site	7
Examination ID	[redacted]
Type	Validation
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]

SoCalGas

Final Workpaper for Line 2001 East, Line 1030, and Line 2001 West - [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	8		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
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	9		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	No		
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	8,044,073	5,051,570	13,095,643

B. Maps and Images

Figure 1: Satellite Image of Line 2001 East, Line 1030, and Line 2001 West - [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 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 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 2001 East, Line 1030, and Line 2001 West for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] to a permanent receiver site within [redacted]
   b. The three inspected pipelines are directly connected to each other, allowing for a continuous ILI through Line 2001 East, Line 1030, and a portion of Line 2001 West ending at [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspections using ILI, nine Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of a 65 foot pipeline replacement.
   b. Direct Examination Site #2 consisted of a 48 foot pipeline replacement.
   c. Direct Examination Site #3 and Site #4 consisted of one extended 271 foot pipeline replacement which remediated both sites.
   d. Direct Examination Site #5 consisted of a 52 foot pipeline replacement.
   e. Direct Examination Site #6 consisted of a 46 foot pipeline replacement.

f. Direct Examination Site #7 consisted of soft pad repair.

g. Direct Examination Site #8 consisted of a 34 foot pipeline replacement.

h. Direct Examination Site #9 consisted of a 42 foot pipeline replacement.

i. The Project identified six Direct Examination sites containing SRCs.

j. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in additional examinations which will be assessed after the TY 2019 General Rate Case (GRC) Cycle.

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

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
2001 East/ 1030/ 2001 West	81.5 mi	[redacted]	[redacted]	[redacted]	No
2001 East/ 1030/ 2001 West	81.5 mi	[redacted]	[redacted]	[redacted]	No
2001 East/ 1030/ 2001 West	81.5 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
1030	1	No	SRC	77 ft	Replacement	65 ft	Capital
1030	2	No	SRC	50 ft	Replacement	48 ft	Capital
1030	3 4	No	SRC	285 ft	Replacement	271 ft	Capital
1030	5	No	SRC	53 ft	Replacement	52 ft	Capital
1030	6	No	SRC	51 ft	Replacement	46 ft	Capital
1030	7	No	No	18 ft	Soft pad	N/A	O&M
2001 East	8	No	No	40 ft	Replacement	34 ft	Capital
1030	9	No	No	47 ft	Replacement	42 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2001 East, Line 1030, and Line 2001 West - [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 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]
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 needed to re-run initial [redacted] tool due to sensor loss exceeding allowable limits.
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 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.

[redacted]

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: No identified impacts.
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 nine Direct Examination Sites selected for validation of the ILI within the extents of the Line 2001 East, Line 1030, and Line 2001 West - [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 65 foot pipeline replacement.
   b. Direct Examination Site #2 consisted of a 48 foot pipeline replacement.
   c. Direct Examination Site #3 and Site #4 consisted of one extended 271 foot pipeline replacement which remediated both sites.
   d. Direct Examination Site #5 consisted of a 52 foot pipeline replacement.
   e. Direct Examination Site #6 consisted of a 46 foot pipeline replacement.
   f. Direct Examination Site #7 consisted of a soft pad repair.
   g. Direct Examination Site #8 consisted of a 34 foot pipeline replacement.
   h. Direct Examination Site #9 consisted of a 42 foot pipeline replacement.
2. SRC/IRC: Direct Examination Sites #1 through #6 resulted in SRCs and required expedited project schedules.

3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the Direct Examinations could be completed without system impacts.
4. Customer Impacts: The Project Team did not identify any anticipated service disruptions to customers.
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 obtained permits from the Regional Water Quality Control Board (RWQCB) and the South Coast Air Quality Management Board District (SCAQMD).
8. Permit Restrictions: The Project Team was able to utilize permits obtained by another SoCalGas project during construction.
9. Land Use: No identified impacts.
10. Traffic Control: The Project Team did not identify any traffic control needs at the site.
11. Constructability: The Project Team coordinated with another SoCalGas project to utilize the same isolation period and shared resources.

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 additional examinations that will be assessed after the TY 2019 GRC Cycle.

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 to #6		
Construction Start Date	[redacted]	
Construction Completion Date		
Mobilization 2: Direct Examination Sites #7 to #9		
Construction Start Date	[redacted]	
Construction Completion Date		

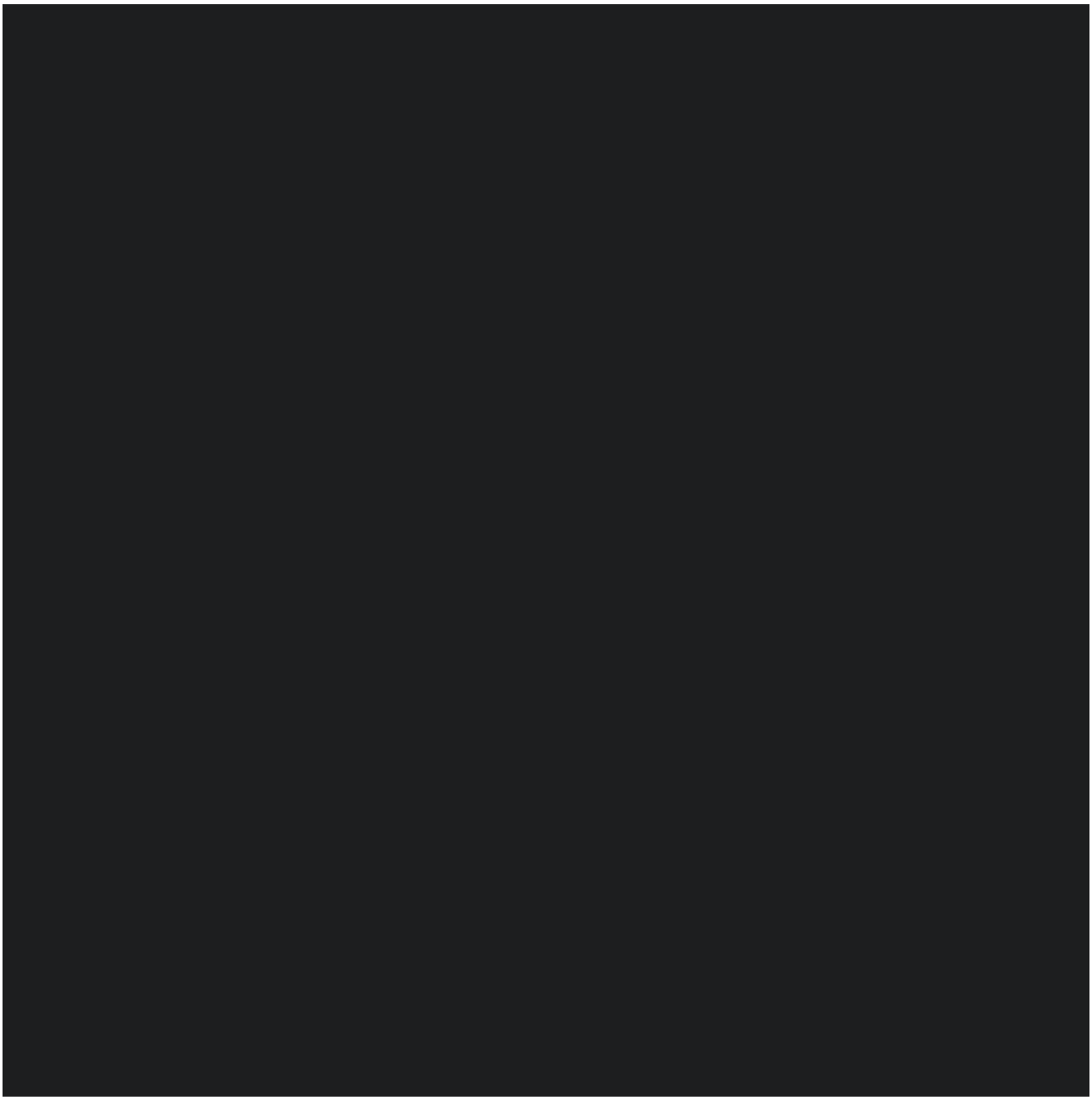
Table 6: Construction Timeline – SRCs

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		

Figure 2: Direct Examination Site #1 Replacement Pipeline

Figure 3: Direct Examination Site #3 and #4 Replacement Pipeline

Figure 4: Direct Examination Site #7 Coating Inspection



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. Schedule Coordination: The Project Team coordinated with another SoCalGas Project performing a hydrotest on Line 2001. This allowed the team to utilize the same isolation period and share permits with that 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 $13,095,643.

Table 7: Actual Direct Costs[4]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	711,842	576,628	1,288,470
Contract Costs	3,505,130	1,466,112	4,971,242
Material	376,496	66,747	443,243
Other Direct Charges	2,134,454	2,487,763	4,622,218
Total Direct Costs	6,727,923	4,597,250	11,325,173

Table 8: Actual Indirect Costs[5]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	1,250,836	454,320	1,705,156
AFUDC	49,496	0	49,496
Property Taxes	15,817	0	15,817
Total Indirect Costs	1,316,150	454,320	1,770,470

Table 9: Total Costs[6]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	8,044,073	5,051,570	13,095,643

[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 2001 East, Line 1030, and Line 2001 West - [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 $13,095,643.

End of Line 2001 East, Line 1030, and Line 2001 West - [redacted] TIMP Project Final Workpaper

I. LINE 2001 WEST PHASE 3 [redacted] TIMP PROJECT

A. Background and Summary

Line 2001 West Phase 3 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 75.5 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 14.5 miles within High Consequence Areas (HCAs) and 61 miles within non-HCAs. This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to eight sites, of which sites seven contained Safety Related Conditions (SRCs). The Project activities were located in Riverside County. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $9,160,849.

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Final Workpaper for Line 2001 West Phase 3 [redacted] Project

Table 1: General Project Information

Inspection Details	
Pipeline	2001 West
Segment	Phase 3 – [redacted]
Inspection Type	[redacted] ILI tools
Location	Cactus City, Moreno Valley
Class	1, 2, 3
HCA Length	14.5 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	Multiple values ranging from [redacted]
SMYS *(confidential)*	Multiple SMYS values ranging 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	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	[redacted]
Pipe Diameter *(confidential)*	[redacted]
MAOP *(confidential)*	[redacted]
SMYS *(confidential)*	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]

SoCalGas

Final Workpaper for Line 2001 West Phase 3 [redacted] 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	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter *(confidential)*	
MAOP *(confidential)*	
SMYS *(confidential)*	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	3
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter *(confidential)*	
MAOP *(confidential)*	
SMYS *(confidential)*	
Construction Start Date	
Construction Completion Date	

SoCalGas

Final Workpaper for Line 2001 West Phase 3 [redacted] Project

Table 1: General Project Information (Continued)

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

SoCalGas

Final Workpaper for Line 2001 West Phase 3 [redacted] Project

Table 1: General Project Information (Continued)

Direct Examination Details	
Site	6
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter *(confidential)*	
MAOP *(confidential)*	
SMYS *(confidential)*	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	7
Examination ID	[redacted]
Type	Validation
Mitigation/Remediation Type	Replacement
Within HCA	No
SRC/IRC	Yes
SRC/IRC Discovery Date	[redacted]
Repair Date	
Pipe Diameter *(confidential)*	
MAOP *(confidential)*	
SMYS *(confidential)*	
Construction Start Date	
Construction Completion Date	

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Final Workpaper for Line 2001 West Phase 3 [redacted] Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	8		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	No		
SRC/IRC	Yes		
SRC/IRC Discovery Date	[redacted]		
Repair Date			
Pipe Diameter *(confidential)*			
MAOP *(confidential)*			
SMYS *(confidential)*			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	4,374,624	4,786,225	9,160,849

B. Maps and Images

Figure 1: Satellite Image of Line 2001 West Phase 3 [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 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 2001 West Phase 3 for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] to a permanent receiver site within [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, eight Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of a 27 foot pipe replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of a 42 foot pipe replacement.
   d. Direct Examination Site #4 consisted of a 17 foot pipe replacement.
   e. Direct Examination Site #5 consisted of a 41 foot pipe replacement.
   f. Direct Examination Site #6 consisted of a 30 foot pipe replacement.
   g. Direct Examination Site #7 consisted of a 41 foot pipe replacement.
   h. Direct Examination Site #8 consisted of a 40 foot pipe replacement.
   i. The Project identified seven Safety Related Conditions (SRCs).
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 and eight Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
2001 West	75.5 mi	[redacted]	[redacted]	[redacted]	No
2001 West	75.5 mi	[redacted]	[redacted]	[redacted]	No
2001 West	75.5 mi	[redacted]	[redacted]	[redacted]	No
2001 West	75.5 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
2001 West	1	No	Yes	32 ft	Replacement	27 ft	Capital
2001 West	2	No	Yes	29 ft	Soft Pad	N/A	O&M
2001 West	3	No	Yes	50 ft	Replacement	42 ft	Capital
2001 West	4	No	No	18 ft	Replacement	17 ft	Capital
2001 West	5	No	Yes	45 ft	Replacement	41 ft	Capital
2001 West	6	No	Yes	43 ft	Replacement	30 ft	Capital
2001 West	7	No	Yes	45 ft	Replacement	41 ft	Capital
2001 West	8	No	Yes	45 ft	Replacement	40 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2001 West Phase 3 [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 performed an ILI from a permanent launcher at [redacted] to a permanent receiver at [redacted] in SoCalGas owned property.
2. HCA Threats:
   [redacted]

[redacted]

3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
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: No identified impacts.
12. Land Use: No identified impacts.
13. Traffic Control: No identified impacts.

[redacted]

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 eight Direct Examination Sites selected for validation of the ILI within the Line 2001 West Phase 3 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a 27 foot pipe replacement.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of a 42 foot pipe replacement.
   d. Direct Examination Site #4 consisted of a 17 foot pipe replacement.
   e. Direct Examination Site #5 consisted of a 41 foot pipe replacement.
   f. Direct Examination Site #6 consisted of a 30 foot pipe replacement.
   g. Direct Examination Site #7 consisted of a 41 foot pipe replacement.
   h. Direct Examination Site #8 consisted of a 40 foot pipe replacement.
2. SRC/IRC: Direct Examination Site #1, #2, #3, #5, #6, #7, and #8 resulted in 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 Direct Examinations could be completed without system impacts.
4. Customer Impacts: The Project Team determined that customer service would be maintained through alternate sources of feed during the assessment.
5. Community Impacts: No identified impacts.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental:
   a. The Project Team obtained a Special Use Permit from the Coachella Valley National Wildlife Refuge for access to Direct Examination Site #8.

b. The Project required biological monitoring for construction activities at Site #3, #5, #6, #7, and #8.
c. The Project Team obtained a Dust Control Plan Permit from South Coast Air Quality Management District (SCAQMD) for Sites #1, #2, #3, #5, #6, #7, and #8.
d. The Project Team utilized environmental permits, Dust Control Plan, and environmental monitoring from another SoCalGas project for Direct Examination #4.

8. Permit Restrictions:
   a. The Project Team obtained a Temporary Right of Entry (TRE) for access to Site #5, Site #6, and Site #8.
   b. The Project Team utilized a TRE from another SoCalGas project for access to Site #4.
9. Land Use: No identified impacts.
10. Traffic Control: No identified impacts.

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

The Project Team will use 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 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		
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		
Mobilization 2: Direct Examination Sites #5, #6, #7, #8		
Construction Start Date	[redacted]	
Construction Completion Date		

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Final Workpaper for Line 2001 West Phase 3 [redacted] Project

Table 6: Construction Timeline – SRC

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 #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		

Final Workpaper for Line 2001 West Phase 3 [redacted] Project

Figure 2: Permanent Receiver at [redacted]

Figure 3: Pipeline Replacement Completed at Site #3

Figure 4: Pipeline Replacement Completed at Site #7

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. Schedule Coordination: The Project Team used resources from another SoCalGas project to address SRC sites through a shared isolation period, Temporary Right of Entry, and environmental permits and monitoring.

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 $9,160,849.

Table 7: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	513,226	458,887	972,113
Contract Costs	2,158,387	1,280,973	3,439,359
Material	196,839	77,492	274,331
Other Direct Charges	681,427	2,548,226	3,229,653
Total Direct Costs	3,549,879	4,365,577	7,915,457

Table 8: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	807,290	420,647	1,227,937
AFUDC	11,890	0	11,890
Property Taxes	5,565	0	5,565
Total Indirect Costs	824,745	420,647	1,245,392

Table 9: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	4,374,624	4,786,225	9,160,849

[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 2001 West Phase 3 [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 $9,160,849.

End of Line 2001 West Phase 3 [redacted] TIMP Project Final Workpaper

I. LINE 2001 WEST, LINE 2002, AND LINE 2003 [redacted] TIMP PROJECT

A. Background and Summary

Line 2001 West, Line 2002, and Line 2003 [redacted] Transmission Integrity Management Program (TIMP) Project assessed [redacted] diameter transmission lines that run approximately 29.4 miles from [redacted]. The pipeline is routed across [redacted] locations entirely within High Consequence Area(s) (HCAs). This Workpaper describes the activities and costs associated with Direct Examinations made to four sites. This Project was located in the cities of Rosemead, Pico Rivera, and Los Angeles. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $2,929,051.

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Final Workpaper for Line 2001 West, Line 2002, and Line 2003 [redacted] TIMP Project

Table 1: General Project Information

Direct Examination Details	
Site	1
Examination ID	[redacted]
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	2
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	
Direct Examination Details	
Site	3
Examination ID	[redacted]
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	
SMYS	
Construction Start Date	
Construction Completion Date	

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Final Workpaper for Line 2001 West, Line 2002, and Line 2003 [redacted] TIMP Project

Table 1: General Project Information (continued)

Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad and 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	1,565,554	1,363,497	2,929,051

B. Maps and Images

Figure 1: Satellite Image of Line 2001 West, Line 2002, and Line 2003 [redacted] [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 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 2001 West, Line 2002, and Line 2003 [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, five Direct Examination Sites were identified for validation. Activities for one of the five Direct Examinations were completed under a previous GRC. This Workpaper describes activities for four Direct Examinations.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of a 37 foot pipeline replacement.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs and a 15 foot pipeline replacement.

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 Examination sites.

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
2002	1	Yes	No	43 ft	Soft Pad	N/A	O&M
2002	2	Yes	No	45 ft	Replacement	37 ft	Capital
2003	3	Yes	No	16 ft	Soft Pad	N/A	O&M
2002	4	No	No	24	Soft Pad and Replacement	15 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas completed the Inspection for the Line 2001 West, Line 2002, and Line 2003 [redacted] TIMP Project in a previous GRC.

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

SoCalGas initiated the planning process for the Line 2001 West, Line 2002, and Line 2003 [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 2001 West, Line 2002, and Line 2003 [redacted] TIMP Project

1. Engineering Assessment: There were five Direct Examination sites selected for validation within the Line 2001 West, Line 2002, and Line 2003 TIMP Project. Activities for one Direct Examination site were completed under a previous GRC. This Workpaper describes activities for four Direct Examinations.
   a. Direct Examination Site #1 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of a 37 foot pipeline replacement.
   c. Direct Examination Site #3 consisted of soft pad repairs.
   d. Direct Examination Site #4 consisted of soft pad repairs and a 15 foot pipeline replacement.
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 identified one customer within the isolation segment for Direct Examination Site #2. The customer was supplied with Compressed Natural Gas (CNG) to avoid impacts to service.
5. Community Impacts: The Project Team was required to work restricted hours for Direct Examination Site #2 that resulted in noise impacts to the community during night hours.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained the following permits:
   a. State of California Department of Transportation Encroachment Permit for Direct Examination Site #1.
   b. County of Los Angeles Department of Public Works Encroachment Permit for Direct Examination Site #1.
   c. City of Rosemead Public Works Permit for Direct Examination Site #1.

d. City of Pico Rivera Public Works Department for Direct Examination Site #2. Approval of this permit restricted working hours from 9:00pm to 5:00am.
e. Utility Permit from the City of Los Angeles for Direct Examination Site #3.

9. Land Use: The Project Team utilized nearby SoCalGas facilities as laydown yards for all Direct Examination Sites.
10. Traffic Control: The Project Team required Traffic Control Plans for each site and obtained approval from the following entities:
    a. City of Rosemead Public Works Department for Direct Examination Site #1.
    b. City of Pico Rivera Public Works Department for Direct Examination Site #2.
    c. City of Los Angeles for Direct Examination Site #3.
11. Constructability: The Project required full isolation of pipeline to complete remediations at Direct Examination Site #2.

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 3: Construction Timeline – Direct Examination

Mobilization 1 – Sites #1 and #3		
Construction Start Date	[redacted]	
Construction Completion Date		
Mobilization 2 – Site #2		
Construction Start Date	[redacted]	
Construction Completion Date		
Mobilization 3 – Site #4		
Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Direct Examination Site #3

Figure 3: Direct Examination Site #4

Figure 4: Direct Examination Site #5 Cut Out

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 for all Direct Examination Sites.
2. Bundling of Projects: The Project Team coordinated with another SoCalGas project to complete pipeline replacement at the location of Direct Examination Site #4. This minimized construction efforts and project costs.

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 $2,929,051.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	131,896	148,403	280,299
Contract Costs	971,639	871,626	1,843,265
Material	41,399	17,648	59,047
Other Direct Charges	163,342	179,984	343,327
Total Direct Costs	1,308,276	1,217,662	2,525,938

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	254,742	145,835	400,577
AFUDC	1,772	0	1,772
Property Taxes	764	0	764
Total Indirect Costs	257,278	145,835	403,114

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,565,554	1,363,497	2,929,051

[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 2001 West, Line 2002, and Line 2003 [redacted] TIMP Project. 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 $2,929,051.

End of Line 2001 West, Line 2002, and Line 2003 [redacted] TIMP Project Final Workpaper

I. LINE 2003 [redacted] TIMP PROJECT

A. Background and Summary

Line 2003 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 11.7 miles from [redacted], through residential neighborhoods and commercial areas. The pipeline is routed across Class 3 and 4 locations with all 11.7 miles within High Consequence Area(s) (HCAs). This Workpaper describes the activities and costs associated with a TIMP Assessment that include Direct Examinations made to three sites and retrofit installations located in Los Angeles and Inglewood. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $8,063,760.

SoCalGas

Final Workpaper for Line 2003 [redacted] TIMP Project

Table 1: General Project Information

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

SoCalGas

Final Workpaper for Line 2003 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	3		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	Yes		
SRC /IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	7,705,986	357,774	8,063,760

Final Workpaper for Line 2003 [redacted] TIMP Project

B. Maps and Images

Figure 1: Satellite Image of Line 2003 [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 occurred during the 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 2003 [redacted] for Inspection using ILI, activities related to the ILI were completed for this Project before the TY 2019 General Rate Case (GRC).
   a. ILI from the [redacted] of Line 2003 in [redacted].
   b. Temporary launcher and receiver equipment was installed at the [redacted] for use during the ILI.
   c. [redacted] was retrofitted with the installation of a permanent receiver and associated piping after the ILI for future Inspections.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, three Direct Examination site were identified for validation.
   a. Direct Examination Site #1 consisted of a Replacement.
   b. Direct Examination Site #2 consisted of a Soft Pad Repair.
   c. Direct Examination Site #3 consisted of a Replacement.

3. Post Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection resulted in two additional examinations which will be assessed after the TY 2019 GRC cycle.
4. Final Project Scope: The final project scope of this Workpaper includes retrofit installation of a permanent receiver and three Direct Examinations.

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
2003	1	Yes	No	37 ft	Replacement	28 ft	Capital
2003	2	Yes	No	23 ft	Soft Pad	N/A	O&M
2003	3	Yes	No	37 ft	Replacement	9 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas completed the Inspection for the Line 2003 [redacted] TIMP Project before the TY 2019 GRC cycle.

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

Continuing the planning process for the Line 2003 [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 2003 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of Replacement.
   b. Direct Examination Site #2 consisted of Soft Pad Repairs.

c. Direct Examination Site #3 consisted of Replacement.

2. 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 not be completed without system impacts if a shut-in was required.
4. Customer Impacts: No customer impacts.
5. Community Impacts: Traffic impacts and occasional noise.
6. Substructures: The Project Team identified existing substructures during the excavation of Direct Examination Sites #1 and #3. This required the Project Team to reassess the sites and incorporate the substructures in the Project design.
7. Environmental: No identified impacts.
8. Permit Restrictions:
   a. The Project Team obtained an excavation permit and resurfacing permit from the City of Los Angeles.
   b. The Project Team obtained a utility permit from the City of Culver City.
9. Land Use: No identified impacts.
10. Traffic Control: The Project Team obtained approval from the DOT of traffic control plans for the closure of one street lane during construction.
11. Constructability: Validation of Direct Examination Sites #1 and #3 initially took place during the same mobilization as Direct Examination Site #2. During the examination, the Project Team identified the need for replacement repairs which would require shut-in of Line 2003. These repairs were rescheduled to coincide with a future SoCalGas project on Line 2003, allowing for minimal shut-in time.

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 that involved preventative and mitigative measures to enhance the overall integrity and safety of the pipeline, which will be assessed outside after the TY 2019 GRC cycle.

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 2003 [redacted] TIMP Project. Key factors that influenced the engineering and design of the installations are as follows:

1. Site Description: The Launcher and Receiver sites used for the ILI were both within SoCalGas owned property at the [redacted].
2. Engineering Analysis: The Project installed a permanent receiver and associated piping at [redacted] for use in future Inspections.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the retrofit could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: Traffic impacts and occasional noise near receiver site.
6. Environmental: No identified impacts.
7. Permit Restrictions: The Project Team obtained a permit from the City of Inglewood to enforce parking restrictions near [redacted].
8. Land Use: No identified impacts.
9. Traffic Control: The Project Team performed traffic control at the receiver station with no impact to the Project design.
10. Constructability:

a. The Project Team determined that the original planned retrofit could not be completed with the limited space at [redacted], which required a change in design.
b. The Project Team initially planned to complete the retrofits before the Inspection was required but determined that the retrofits could not be completed in time. A temporary receiver was used instead for the ILI, and the permanent retrofits were then completed after the Inspection.

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 3: Construction Timeline – Direct Examination

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

Table 4: Construction Timeline – Station Retrofits

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Bare Pipe at Direct Examination Site #1

Figure 3: Existing Pipe Coating at Direct Examination Site #3

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 $8,063,760.

Table 5: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	453,560	100,178	553,738
Contract Costs	4,832,156	50,174	4,882,330
Material	366,568	-11,368	355,200
Other Direct Charges	729,341	154,373	883,713
Total Direct Costs	6,381,625	293,356	6,674,981

Table 6: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	1,107,489	64,418	1,171,907
AFUDC	174,456	0	174,456
Property Taxes	42,416	0	42,416
Total Indirect Costs	1,324,361	64,418	1,388,779

Table 7: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	7,705,986	357,774	8,063,760

[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 2003 [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 2003 in the cities of Los Angeles and Inglewood. The total loaded cost of the Project is $8,063,760.

End of Line 2003 [redacted] TIMP Project Final Workpaper

I. LINE 2051 [redacted] TIMP PROJECT

A. Background and Summary

Line 2051 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 45 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 3.5 miles within High Consequence Area(s) (HCAs) and 41.5 miles within non-HCAs. This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) located in [redacted]. The specific attributes of this Project are detailed in Table 1 below. The total loaded cost of the Project is $3,458,204.

SoCalGas

Final Workpaper for Line 2051 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	2051		
Segment	[redacted]		
Inspection Type	[redacted] ILI Tools		
Location	[redacted]		
Class	1, 2, 3		
HCA Length	3.5 miles		
Vintage	Multiple vintages from [redacted]		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values ranging 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	219,462	3,238,741	3,458,204

B. Maps and Images

Figure 1: Satellite Image of Line 2051 [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 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. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 2051 for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] Station to a permanent receiver site within [redacted].
   b. Installation of a temporary filter separator and associated piping at the receiver site.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, Direct Examination sites were identified for validation and will be addressed after 2023, outside the scope of this proceeding.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of any future Direct Examinations will be used to determine if additional examinations are required.
4. Final Project Scope: The final project scope of this Workpaper includes Inspection using ILI.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
2051	45 mi	[redacted]	[redacted]	[redacted]	No
2051	45 mi	[redacted]	[redacted]	[redacted]	No
2051	45 mi	[redacted]	[redacted]	[redacted]	No
2051	45 mi	[redacted]	[redacted]	[redacted]	No

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 2051 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The ILI of Line 2051 was launched from a permanent launcher site within [redacted] to a permanent receiver site within [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]

[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 non-core customers by utilizing alternate sources of feed during the assessment.
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 an environmental monitor to escort tool trackers during the ILI due to desert tortoise habitats in the surrounding areas.
11. Permit Restrictions: There were no special permits or permit restrictions for this Project.
12. Land Use: No identified impacts.
13. Traffic Control: No identified impacts.

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

Continuing the planning process for the Line 2051 [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, outside the scope of this proceeding.

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

The Project Team will use 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 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: Launcher Barrel at [redacted] Station

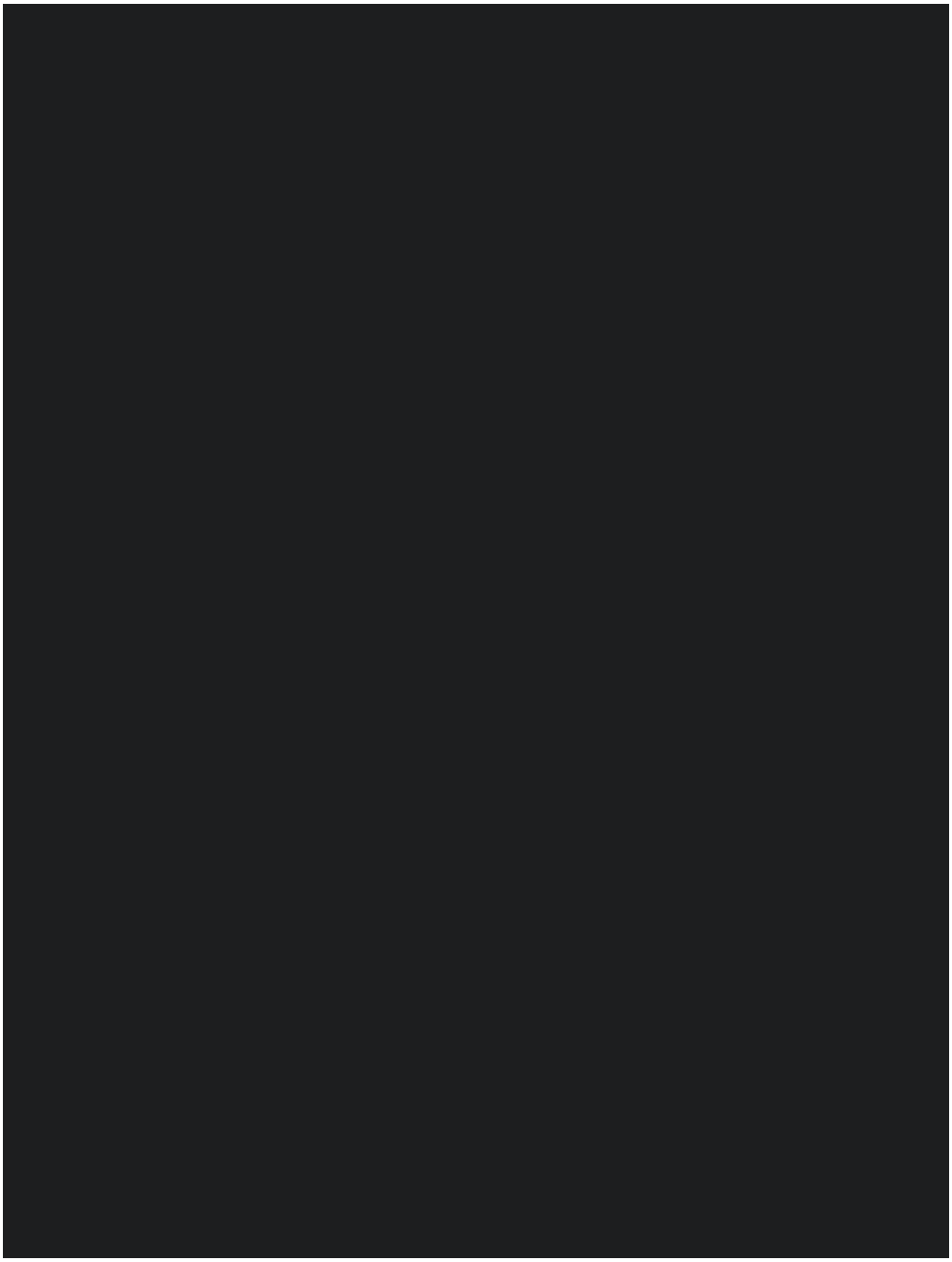
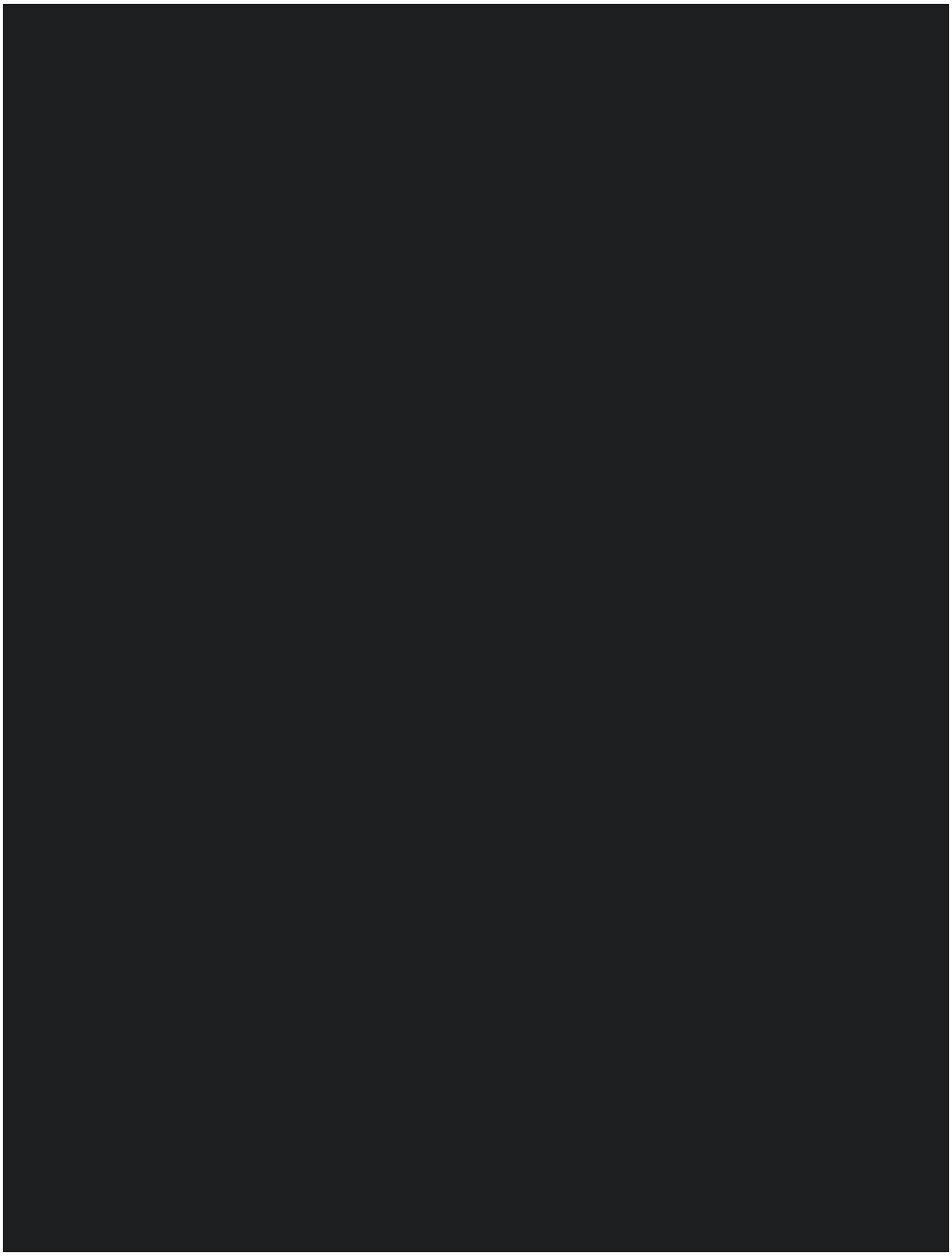


Figure 3: Filter separator and associated piping at the receiver site



C. Commissioning and Site Restoration

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

IV. PROJECT COSTS

A. Cost Efficiency Actions

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.

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 $3,458,204.

Table 4: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	333,623	333,623
Contract Costs	0	791,242	791,242
Material	159,024	64,688	223,712
Other Direct Charges	0	1,786,667	1,786,667
Total Direct Costs	159,024	2,976,220	3,135,244

Table 5: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	49,965	262,521	312,486
AFUDC	9,118	0	9,118
Property Taxes	1,355	0	1,355
Total Indirect Costs	60,438	262,521	322,959

Table 6: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	219,462	3,238,741	3,458,204

[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 2051 [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 $3,458,204.

End of Line 2051 [redacted] TIMP Project Final Workpaper

I. LINE 2051 [redacted] TIMP PROJECT

A. Background and Summary

Line 2051 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 45.4 miles from [redacted]. The pipeline is routed across Class 1, 2, and 3 locations with 3.8 miles within High Consequence Area(s) (HCAs) and 41.6 miles within non-HCAs. This Workpaper describes the activities and costs associated with the Direct Examinations made to three sites. The Project activities were located in Cactus City. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $2,449,160.

SoCalGas

Final Workpaper for Line 2051 [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]
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 2051 [redacted] TIMP Project

Table 1: General Project Information (Continued)

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	1,390,855	1,058,305	2,449,160

B. Maps and Images

Figure 1: Satellite Image of Line 2051 [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 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 2051 for Inspection using In-Line Inspection (ILI).
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 a band repair and 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 Inspections using three Direct Examinations.

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
2051	1	No	No	37.5 ft	Soft Pad, Band	N/A	Capital
2051	2	No	No	26 ft	Soft Pad	N/A	O&M
2051	3	No	No	26.4 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas completed the Inspection for the Line 2051 [redacted] TIMP Project in a previous GRC.

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

Continuing the planning process for the Line 2051 [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 2051 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a band repair and soft pad repairs.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of soft pad repairs.
2. SRC/IRC: There were no 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.
4. Customer Impacts: No customer impacts.
5. Community Impacts: The Project had minimal community impact because the sites were in an area that did not require traffic control.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: The Project Team required the following:
    a. Active biological monitoring at Direct Examination sites and for escorting on access roads during construction.
    b. Nationwide Permit 12 from the Army Corp of Engineers for repairs at all Direct Examination sites.
    c. Section 401 Water Quality Certification from the State Water Resource Control Board.
    d. Dust Control Permit from the South Coast Air Quality Management District.
8. Permit Restrictions: The Project Team required cultural resource approval from the Bureau of Land Management (BLM).
9. Land Use: No identified impacts.
10. Traffic Control: The Project Team did not identify any traffic control needs at the site.
11. Schedule Delay: The Project Team experienced a schedule delay due to permitting approval from the US Army Corps of Engineers.

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 Sites #1, #2, #3	
Construction Start Date	[redacted]
Construction Completion Date	

Figure 2: Direct Examination Site #1

Figure 3: Direct Examination Site #1

Figure 4: Direct Examination Site #2

Figure 5: Direct Examination Site #3

Figure 6: Direct Examination Site #3

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 $2,449,160.

Table 4: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	154,759	91,763	246,522
Contract Costs	460,118	593,719	1,053,837
Material	140,339	-891	139,448
Other Direct Charges	335,701	279,569	615,271
Total Direct Costs	1,090,917	964,160	2,055,077

Table 5: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	215,045	94,144	309,189
AFUDC	67,580	0	67,580
Property Taxes	17,314	0	17,314
Total Indirect Costs	299,938	94,144	394,083

Table 6: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,390,855	1,058,305	2,449,160

[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 2051 [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 $2,449,160.

End of Line 2051 [redacted] TIMP Project Final Workpaper

I. LINE 3000 EAST PHASE 1 [redacted] TIMP PROJECT

A. Background and Summary

Line 3000 East Phase 1 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a multi-diameter [redacted] and [redacted] transmission line that runs approximately 8.1 miles from [redacted] The pipeline is routed across [redacted] locations entirely within non-High Consequence Areas (non-HCAs). This Workpaper describes the activities and costs associated with a TIMP Assessment that included an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to one site. The Project activities were located in the City of Needles. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $2,338,704.

SoCalGas

Final Workpaper for Line 3000 East Phase 1 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details			
Pipeline	3000 East		
Segment	Phase 1 – [redacted]		
Inspection Type	[redacted] ILI Tools		
Location	Needles		
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 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	1,287,326	1,051,378	2,338,704

B. Maps and Images

Figure 1: Satellite Image of Line 3000 East Phase 1 [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 a 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 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 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified Line 3000 East Phase 1 for Inspection using ILI.
   a. ILI from a permanent launcher site within an Operator facility in Arizona to a permanent receiver site within [redacted]
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, one Direct Examination site was identified for validation.
   a. Direct Examination Site #1 consisted of soft pad and band repairs.
3. Post-Assessment – Engineering, Design, and Constructability:
   The validation analysis of the Direct Examination 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 one Direct Examination.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
3000 East	8 mi	[redacted]	[redacted]	[redacted]	No
3000 East	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
3000 East	1	No	No	31 ft	Soft Pad, Band	N/A	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 3000 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 Inspection are as follows:

1. Site Description: The ILI for Line 3000 East Phase 1 was conducted from a permanent launcher site within an Operator facility in Arizona to a permanent receiver site within [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.
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 a biological monitor for all tool tracking activities during the ILI.
11. Permit Restrictions: There were no special permits or permit restrictions for this Project.
12. Land Use: The Project Team utilized a company facility as a laydown yard.
13. Traffic Control: No identified impacts.

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

Continuing the planning process for the Line 3000 East 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:
   a. There was one Direct Examination Sites selected for validation of the ILI within the Line 3000 East Phase 1 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of soft pad and band 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: Environmental monitors performed routine site visits during construction and were required for escorting on access roads.
8. Permit Restrictions: No identified impacts.
9. Land Use: The Project Team obtained a Notice to Proceed from The Bureau of Land Management. The electric utility granted permission to grade and utilize their access road to access the job site.
10. Traffic Control: 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 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

Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Band Repair

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. Bundling of Projects: The Project Team coordinated the Inspection for this Project to occur in sequence with two other Inspections. This allowed for minimized costs for construction activities and materials.

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 $2,338,704.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	135,960	193,264	329,223
Contract Costs	665,396	271,661	937,057
Material	892	39,896	40,788
Other Direct Charges	243,599	386,043	629,642
Total Direct Costs	1,045,847	890,864	1,936,710

Table 7: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	238,090	160,515	398,605
AFUDC	2,992	0	2,992
Property Taxes	397	0	397
Total Indirect Costs	241,479	160,515	401,994

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,287,326	1,051,378	2,338,704

[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 3000 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 $2,338,704.

End of Line 3000 East Phase 1 [redacted] TIMP Project Final Workpaper

I. LINE 3000 EAST PHASE 2A [redacted] TIMP PROJECT

A. Background and Summary

Line 3000 East Phase 2A [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 62.4 miles from [redacted]. The pipeline is routed across [redacted] locations entirely within non-High Consequence Area(s) (HCAs). This Workpaper describes the activities and costs associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to five sites, which all 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 $18,095,427.

SoCalGas

Final Workpaper for Line 3000 East Phase 2A [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	3000 East
Segment	Phase 2A – [redacted]
Inspection Type	[redacted] ILI Tools
Location	Needles and Mojave Desert
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	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	2
Examination ID	[redacted]
Type	Validation
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]
Type	Validation
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	4		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	No		
SRC/IRC	Yes		
SRC/IRC Discovery Date	[redacted]		
Repair Date			
Pipe Diameter			
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	5		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
Within HCA	No		
SRC/IRC	Yes		
SRC/IRC Discovery Date	[redacted]		
Repair Date			
Pipe Diameter			
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	15,235,823	2,859,604	18,095,427

B. Maps and Images

Figure 1: Satellite Image of Line 3000 East Phase 2A [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 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 3000 East Phase 2A [redacted] TIMP Project for Inspection using ILI.
   a. ILI from a permanent launcher site within [redacted] to a permanent receiver site on [redacted].
   b. The Project Team identified 22 pipeline spans within the project scope. There was one span that required temporary support.
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, five locations were identified for validation.
   a. Direct Examination Site #1 consisted of 150 feet of pipeline replacement.
   b. Direct Examination Site #2 consisted of 460 feet of pipeline replacement.
   c. Direct Examination Site #3 consisted of 109 feet of pipeline replacement.
   d. Direct Examination Site #4 consisted of 67 feet of pipeline replacement.
   e. Direct Examination Site #5 consisted of 160 feet of pipeline replacement.
   f. All Direct Examination Sites contained SRCs.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection is in progress and 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 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
3000	62.4 mi	[redacted]	[redacted]	[redacted]	No
3000	62.4 mi	[redacted]	[redacted]	[redacted]	No
3000	62.4 mi	[redacted]	[redacted]	[redacted]	No
3000	62.4 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
3000	1	No	Yes, SRC	170 ft	Replacement	150 ft	Capital
3000	2	No	Yes, SRC	460 ft	Replacement	460 ft	Capital
3000	3	No	Yes, SRC	78 ft	Replacement	109 ft	Capital
3000	4	No	Yes, SRC	66 ft	Replacement	67 ft	Capital
3000	5	No	Yes, SRC	17 ft	Replacement	160 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 3000 East Phase 2A [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 on [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.
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 at both launcher and receiver locations.
11. Permit Restrictions: No identified impacts.
12. Land Use: The Project Team provided notifications to the Bureau of Land Management.
13. Traffic Control: No identified impacts.
14. Constructability: The Project Team coordinated the Inspection for this Project to occur in sequence with two other Inspections. This allowed for reduced system impacts as well as minimized costs for construction activities and materials.

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 five Direct Examination Sites selected for validation of the ILI within the Line 3000 East Phase 2A [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of 150 feet of pipeline replacement.
   b. Direct Examination Site #2 consisted of 460 feet of pipeline replacement.
   c. Direct Examination Site #3 consisted of 109 feet of pipeline replacement.
   d. Direct Examination Site #4 consisted of 67 feet of pipeline replacement.
   e. Direct Examination Site #5 consisted of 160 feet of pipeline replacement.
2. SRC/IRC: All Direct Examination Sites contained SRCs.
3. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the SRC 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 required the following:
   a. Active biological monitoring at the direct examination sites and for escorting vehicles on access roads.
   b. Compliance with a Streambed Alteration Agreement from California Department of Fish and Wildlife for Direct Examination Sites #1, #2, #3, and #5.
   c. Compliance with the Colorado River Basin Regional Water Quality Control Board Waste Discharge Report for Direct Examination Sites #1, #2, #3, and #5.
8. Permit Restrictions: No identified impacts.
9. Land Use: The Project required a laydown yard near Essex for the Direct Examinations.
10. Traffic Control: No identified impacts.
11. Schedule Delay: The Project Team experienced the following schedule impacts:
    a. Tie-in operations were delayed due to locating acceptable pipe for tie-in operations.
    b. Extended construction timelines due to offsite validation activities that required additional pipeline laser scanning and Inspections for pipe segments from Direct Examination Sites #2, #3, #4, and #5.

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 in progress and will be used to determine if remediation is 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 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 Examinations

Construction Start Date	[redacted]
Construction Completion Date	

Table 6: Construction Timeline – SRC

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	

Figure 2: Launcher Site at [redacted]

Figure 3: Receiver Site at [redacted]

Figure 4: Direct Examination Site #2

Figure 5: Direct Examination Site #5

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. Schedule Coordination:
   a. The Project Team coordinated the Inspection for this Project to occur in sequence with two other Inspections. This allowed for minimized costs for construction activities and materials.
   b. The Project Team completed Direct Examinations during the same outage window as a nearby 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 $18,095,427.

Table 7: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	601,444	202,737	804,180
Contract Costs	9,131,167	509,818	9,640,986
Material	271,367	12,861	284,228
Other Direct Charges	3,089,786	1,950,036	5,039,822
Total Direct Costs	13,093,763	2,675,453	15,769,216

Table 8: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	2,024,773	184,151	2,208,925
AFUDC	90,224	0	90,224
Property Taxes	27,063	0	27,063
Total Indirect Costs	2,142,060	184,151	2,326,211

Table 9: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	15,235,823	2,859,604	18,095,427

[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 3000 East Phase 2A [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 $18,095,427.

End of Line 3000 East Phase 2A [redacted] TIMP Project Final Workpaper

I. LINE 3000 EAST PHASE 2B [redacted] TIMP PROJECT

A. Background and Summary

Line 3000 East Phase 2B [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 54.2 miles from [redacted] The pipeline is routed across [redacted] locations entirely within non-High Consequence Areas (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 two 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 $5,859,816.

Final Workpaper for Line 3000 East Phase 2B [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	3000 East
Segment	Phase 2B – [redacted]
Inspection Type	[redacted] ILI Tool
Location	Mojave Desert 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	
Final Tool Run Date	
Inspection Due Date	

SoCalGas

Final Workpaper for Line 3000 East Phase 2B [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 Replacement		
Within HCA	No		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Replacement		
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	4,761,419	1,098,397	5,859,816

B. Maps and Images

Figure 1: Satellite Image of Line 3000 East Phase 2B [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 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 3000 East Phase 2B [redacted] TIMP Project for Inspection using ILI.
   a. ILI from a permanent launcher site on [redacted] to a permanent receiver site within [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Following the completion of the Inspection using ILI, two Direct Examination sites were identified for validation.
   a. Direct Examination Site #1 consisted of soft pad repairs and an 81 foot pipeline replacement.
   b. Direct Examination Site #2 consisted of a 131 foot pipeline replacement.
3. Post-Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examinations following the Inspection is in progress and 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 two Direct Examinations.

Table 2: Final Inspection Project Scope – ILI

Final Project Scope					
Line	Inspection Length	Threat Type	Inspection Technology	Tool Method of Travel	Retrofits
3000	54.2 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
3000	1	No	No	80 ft	Soft Pad and Replacement	81 ft	Capital
3000	2	No	No	131 ft	Replacement	131 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 3000 East Phase 2B [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 on [redacted] and ended at a permanent receiver site within [redacted].
2. Integrity Threats:
   [redacted]

[redacted]

3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the combination tool run.
6. System Analysis: The Project Team completed a review of the Pipeline system to evaluate project feasibility, which concluded the pipeline could be inspected without system impacts.
7. Customer Impacts: No customer impacts.
8. Community Impacts: No identified impacts.
9. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
10. Environmental: The Project required active biological monitoring at the launcher and receiver locations.
11. Permit Restrictions: No identified impacts.
12. Land Use:
    a. The Project Team provided notifications to the Bureau of Land Management to complete the Inspection.
    b. The Project utilized a company owned facility as a laydown yard for the Inspection.
13. Traffic Control: No identified impacts.

[redacted]

14. Constructability: The Project Team coordinated the Inspection for this Project to occur in sequence with two other Inspections. This allowed for reduced system impacts as well as minimized costs for construction activities and materials.

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 two Direct Examination Sites selected for validation within the Line 3000 East Phase 2B [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of soft pad repairs and a pipeline replacement of 81 feet.
   b. Direct Examination Site #2 consisted of a pipeline replacement of 131 feet.
2. SRC/IRC: There were no Safety Related Conditions (SRCs) or Immediate Repair Conditions (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 adverse 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 required active biological monitoring at the Direct Examination Sites and for escorting vehicles on access roads.
8. Permit Restrictions: No identified impacts.
9. Land Use:
   a. The Project Team provided notifications to the Bureau of Land Management and obtained a Notice to Proceed for the Direct Examinations.

b. The Project required a laydown yard near Essex for the Direct Examinations.

10. Traffic Control: No identified impacts.
11. Constructability: The Project Team coordinated the Direct Examinations to be completed in the same timeline as another SoCalGas project in the vicinity. This allowed for reduced system impacts as well as minimized costs for construction activities.

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 Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

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

Table 5: Construction Timeline – Direct Examination

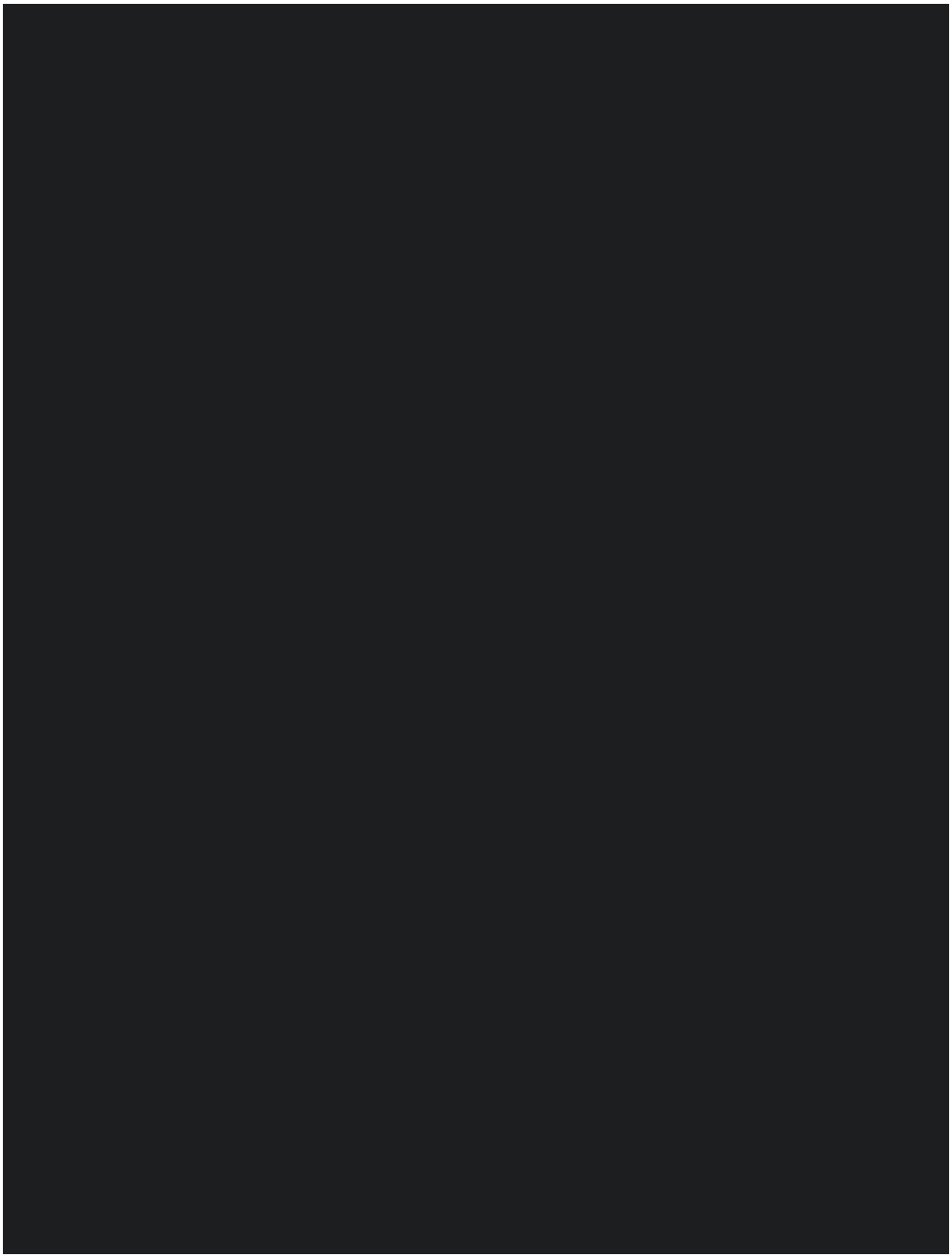
Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: Launcher Site – [redacted]

Figure 3: Receiver Site – [redacted]

Figure 4: Direct Examination Site #1

Figure 5: Direct Examination Site #2



C. Commissioning and Site Restoration

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

IV. PROJECT COSTS

A. Cost Efficiency Actions

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. Schedule Coordination:
   a. The Project Team coordinated the Inspection for this Project to occur in sequence with two other Inspections. This allowed for minimized costs for construction activities and materials.
   b. The Project Team completed Direct Examinations during the same outage window as a nearby 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 $5,859,816.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	227,751	147,017	374,767
Contract Costs	3,139,240	236,991	3,376,231
Material	36,966	23,993	60,960
Other Direct Charges	707,710	563,590	1,271,300
Total Direct Costs	4,111,667	971,591	5,083,257

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	644,774	126,807	771,581
AFUDC	2,670	0	2,670
Property Taxes	2,309	0	2,309
Total Indirect Costs	649,752	126,807	776,559

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	4,761,419	1,098,397	5,859,816

[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 3000 East Phase 2B [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 $5,859,816.

End of Line 3000 East Phase 2B [redacted] TIMP Project Final Workpaper

I. LINE 3000 [redacted] TIMP PROJECT

A. Background and Summary

Line 3000 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 44 miles from [redacted]. The pipeline is routed across Class 1, 2, 3, and 4 locations with 40.2 miles within High Consequence Areas (HCAs) and 3.8 miles within non-HCAs. This Workpaper describes the activities associated with a TIMP Assessment that includes an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to four sites, of which sites one contained an Immediate Repair Condition (IRC). The Project activities were located in the Cities of Santa Clarita and Alhambra. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $2,811,476.

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Final Workpaper for Line 3000 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	3000
Segment	[redacted]
Inspection Type	[redacted] ILI Tools
Location	Santa Clarita and Alhambra
Class	1, 2, 3, 4
HCA Length	40.2 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Mitigation/Remediation Type	Replacement
Within HCA	Yes
SRC or 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)

[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 3000 [redacted] TIMP Project

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
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]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Direct Examination Details			
Site	4		
Examination ID	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP			
SMYS			
Construction Start Date			
Construction Completion Date			
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	652,797	2,158,679	2,811,476

B. Maps and Images

Figure 1: Satellite Image of Line 3000 [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 an In-line Inspection and four 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 3000 West 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 launcher and receiver barrels due to outdated existing assemblies at both sites.
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 replacement.
   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 an 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
3000	44 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
3000	1	Yes	Yes	28 ft	Replacement	28 ft	Capital
3000	2	No	No	15 ft	Soft Pad	N/A	O&M
3000	3	Yes	No	16 ft	Soft Pad	N/A	O&M
3000	4	Yes	No	15 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 3000 [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 3000 [redacted] TIMP Project

1. Site Description: The Inspection started out at [redacted] and ended in [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages from [redacted]
4. Long Seam Type:
   [redacted]

   Inspection Tools and Technologies: The Project utilized [redacted] capabilities during the Inspection of the pipeline. [redacted] were also utilized in preparation for the Inspection.
5. 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.
6. Customer Impacts: No customer impacts.
7. Community Impacts: No identified issues or traffic impacts and occasional noise.
8. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
9. Environmental: The Project Team did not identify any notable environmental concerns at the sites.
10. Land Use: No identified impacts.
11. Traffic Control: No identified impacts.

[redacted]

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

Continuing the planning process for the Line 3000 [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 3000 [redacted] TIMP Project.
   a. Direct Examination Site #1 consisted of a replacement.
   b. Direct Examination Site #2 consisted of a soft pad repair.
   c. Direct Examination Site #3 consisted of a soft pad repair.
   d. Direct Examination Site #4 consisted of a soft pad repair.
2. SRC/IRC: Direct Examination Site #1 contained an IRC 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 pipeline could be completed without system impacts.
4. Customer Impacts: No customer impacts.
5. Community Impacts: No identified issues or traffic impacts and occasional noise.
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 sites.
8. Permit Restrictions: There were no special permits or permit restrictions for this Project.
9. Land Use: No identified impacts.
10. Traffic Control: No identified impacts.

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 Contractors that best met the criteria for this Project.

B. Construction Schedule

Table 4: Construction Timeline – Inspection

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

Table 5: Construction Timeline – Direct Examination

Construction Start Date	[redacted]	
Construction Completion Date		

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

Figure 2: Direct Examination Site #2 Overview

Figure 3: Direct Examination Site #3 Overview

Figure 4: Direct Examination Site #3 Overview

Figure 5: Direct Examination Site #4 Overview

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.

B. Actual Costs[4]

Actual loaded costs reflect the Labor, Material, and Services costs incurred to execute the Project. The total loaded cost of the Project is $2,811,476.

Table 6: Actual Direct Costs[5]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	68,397	362,131	430,529
Contract Costs	409,735	897,632	1,307,367
Material	1,132	65,049	66,181
Other Direct Charges	57,228	529,693	586,921
Total Direct Costs	536,493	1,854,505	2,390,998

Table 7: Actual Indirect Costs[6]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	114,519	298,422	412,941
AFUDC	130	5,752	5,883
Property Taxes	1,655	0	1,655
Total Indirect Costs	116,304	304,174	420,478

Table 8: Total Costs[7]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	652,797	2,158,679	2,811,476

[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 3000 [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 $2,811,476.

End of Line 3000 [redacted] TIMP Project Final Workpaper

I. LINE 3001 [redacted] TIMP PROJECT

A. Background and Summary

Line 3001 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a [redacted] diameter transmission line that runs approximately 5.1 miles from [redacted], through residential neighborhoods. The Project also assessed four short segments of [redacted] and [redacted] pipeline using the [redacted] assessment method. The pipeline is routed across [redacted] location with 5.1 miles entirely within High Consequence Area(s) (HCAs). This Workpaper describes the activities and costs associated with an Inspection using In-Line Inspection (ILI) and the Direct Examinations made to five sites. The Project activities were located in the City of Los Angeles. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $5,649,851.

SoCalGas

Final Workpaper for Line 3001 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	3001
Segment	[redacted]
Inspection Type	[redacted] ILI Tool
Location	Los Angeles
Class	[redacted]
HCA Length	5.1 miles
Vintage	Multiple vintages from [redacted]
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	Multiple SMYS values from [redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Final Tool Run Date	[redacted]
Inspection Due Date	[redacted]
Direct Examination Details	
Site	1
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	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 3001 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details	
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	3001-0.00-XO1
Site	3
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	Soft Pad
Within HCA	Yes
SRC/IRC	No
Pipe Diameter	[redacted]
MAOP	[redacted]
SMYS	[redacted]
Construction Start Date	[redacted]
Construction Completion Date	[redacted]
Due Date	[redacted]

SoCalGas

Final Workpaper for Line 3001 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Line	3001-0.00-XO2		
Site	4		
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	5		
Examination ID	[redacted]		
Type	Validation		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	0	5,649,851	5,649,851

B. Maps and Images

Figure 1: Satellite Image of Line 3001 [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 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 3001 for Inspection using ILI.
   a. ILI from a temporary launcher site on [redacted] to a temporary receiver site on [redacted].
2. Direct Examination – Engineering, Design, and Constructability: Five Direct Examination sites were identified to either assess pipeline segments that could not accommodate an ILI tool or for validation.
   a. Direct Examination Site #1 resulted in no repairs.
   b. Direct Examination Site #2 resulted in no 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.
3. Post Assessment – Engineering, Design, and Constructability: The validation analysis of a Direct Examination following the Inspection 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 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
3001	5.1 mi	[redacted]	[redacted]	[redacted]	No

Table 3: Final Direct Examination Project Scope

Final Project Scope							
Line	Site	Within HCA	SRC/ IRC	Examination Length	Mitigation/ Remediation Type	Replacement Length	Cost Category
3001	1	Yes	No	14 ft	No Repair	N/A	O&M
3001	2	Yes	No	5 ft	No Repair	N/A	O&M
3001-0.00-XO1	3	Yes	No	20 ft	Soft Pad	N/A	O&M
3001-0.00-XO2	4	Yes	No	19 ft	Soft Pad	N/A	O&M
3001	5	Yes	No	20 ft	Soft Pad	N/A	O&M

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 3001 [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 in the intersection of [redacted] and ended at a temporary receiver site in a residential area at the intersection of [redacted].

2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages from [redacted].
4. Long Seam Type:
   [redacted]
5. Inspection Tools and Technologies: The Project utilized [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 did not identify any anticipated service disruptions to customers.
8. Community Impacts: The Project Team conducted outreach and worked closely with the community to mitigate the following effects of construction:
   a. The Traffic Control Plan (TCP) at the intersection of [redacted] required permanent K-rail which impacted traffic at this intersection for the duration of the Project. Parking availability was also impacted at this location as there are several apartments and residential homes in the surrounding area.

[redacted]

b. The TCP near the intersection of [redacted] required permanent K-rail which impacted the traffic at this intersection as well as driveway accessibility for multiple homeowners during construction.

9. Substructures: The Project Team identified sewer lines prior to construction and included them in the Project design. This involved conducting Closed Circuit Television Video (CCTV) of all sewer lines within three feet laterally of any excavation.
10. Environmental: No identified impacts.
11. Permit Restrictions: The Project Team obtained the following permits:
    a. The City of Los Angeles Peak Hour Exemption Permit allowed working before 9AM and after 3PM.
    b. The City of Los Angeles Noise Variance Permit allowed noise after 10PM.
    c. The City of Los Angeles Sewer Permit.
    d. The City of Los Angles Excavation Permit.
12. Land Use: The Project Team obtained multiple Temporary Right of Entry (TRE) agreements with private landowners to be used as laydown yards for staging, material delivery, and fabrication.
13. Traffic Control: The Project Team required and obtained approved traffic control measures from the City of Los Angeles for the launcher and receiver locations that included multiple lane closures, road striping, signage, K-rail, and additional workspace for staging, fabrication, and parking.
14. Constructability: Four sites were assessed using [redacted] during the Inspection Phase of the Project.

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. There were four [redacted] Sites selected to assess pipeline segments that could not accommodate an ILI tool within the Line 3001 [redacted] TIMP Project.
    i. Direct Examination Site #1 resulted in no repair.
    ii. Direct Examination Site #2 resulted in no repair.
    iii. Direct Examination Site #3 consisted of soft pad repairs.
    iv. Direct Examination Site #4 consisted of soft pad repairs.
    v. The Project Team completed these Direct Examinations during the Inspection Phase of the Project.
b. There was one Direct Examination Site selected for validation of the ILI within the Line 3001 [redacted] TIMP Project.
    i. Direct Examination Site #5 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: Traffic impacts and occasional noise.
6. Substructures: The Project Team did not identify any existing substructures that impacted the design and engineering.
7. Environmental: No identified impacts.
8. Permit Restrictions: The Project Team obtained a City of Los Angeles Excavation Permit.
9. Land Use: The Project Team extended an existing TRE agreement with a private landowner from another Project to be used as a laydown yard for Direct Examination Site #5.

10. Traffic Control: The Project Team required and obtained approved traffic control measures from the City of Los Angeles for Direct Examination Site #5 and included flaggers to direct vehicles and assist pedestrians, multiple lane closures, and signage.
11. Constructability: The Project Team completed Direct Examination Sites #1, #2, #3, and #4 during the Inspection Phase of the Project.

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

During the Post Assessment step, the Project Team used 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 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		
Mobilization 2: Direct Examination Sites #5		
Construction Start Date	[redacted]	
Construction Completion Date		

Figure 2: ILI Launcher Site

Figure 3: ILI Receiver Site Setup

Figure 4: Direct Examination Site #5

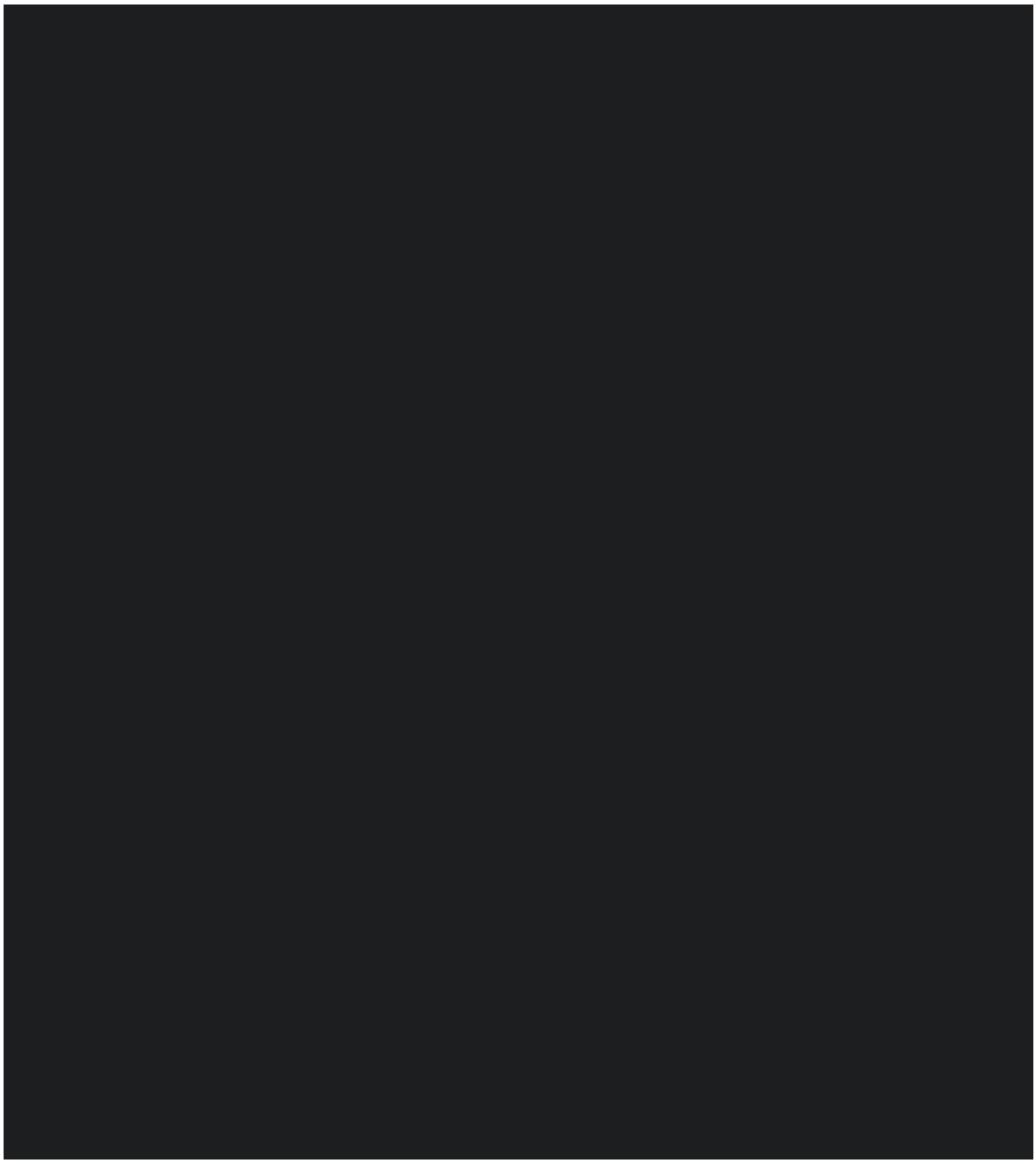


Figure 5: Site #4 Excavation

Figure 6: Short Segment Tee

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 launcher location on [redacted] is also the receiver location for Line 406. The Project Team coordinated permitting, TREs, and outreach with the Line 406 Project as they are scheduled for the same calendar year and significantly impact this highly trafficked intersection.

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 $5,649,851.

Table 6: Actual Direct Costs[3]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	0	416,249	416,249
Contract Costs	0	3,721,020	3,721,020
Material	0	192,171	192,171
Other Direct Charges	0	744,839	744,839
Total Direct Costs	0	5,074,279	5,074,279

Table 7: Actual Indirect Costs[4]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	0	574,753	574,753
AFUDC	0	724	724
Property Taxes	0	95	95
Total Indirect Costs	0	575,572	575,572

Table 8: Total Costs[5]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	0	5,649,851	5,649,851

[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 3001 [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 $5,649,851.

End of Line 3001 [redacted] TIMP Project Final Workpaper

Final Workpaper for Line 3002 [redacted] TIMP Project

I. LINE 3002 [redacted] TIMP PROJECT

A. Background and Summary

Line 3002 [redacted] Transmission Integrity Management Program (TIMP) Project assessed a predominantly [redacted] diameter transmission line that runs approximately 0.4 miles from [redacted], through residential neighborhoods. The Project also assessed two short segments using the [redacted] assessment method. The pipeline is routed across [redacted] locations entirely within a High Consequence Area(s) (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 City of Glendale. The specific attributes of this Workpaper are detailed in Table 1 below. The total loaded cost of the Project is $4,223,063.

Final Workpaper for Line 3002 [redacted] TIMP Project

Table 1: General Project Information

Inspection Details	
Pipeline	3002
Segment	[redacted]
Inspection Type	[redacted] ILI Tool
Location	Glendale
Class	[redacted]
HCA Mileage	0.4 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	
Site	1
Examination ID	[redacted]
Type	[redacted]
Mitigation/Remediation Type	Soft Pad
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 3002 [redacted] TIMP Project

Table 1: General Project Information (Continued)

Direct Examination Details			
Site	2		
Examination ID	[redacted]		
Type	[redacted]		
Mitigation/Remediation Type	Soft Pad		
Within HCA	Yes		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	Multiple SMYS values from [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	Replacement		
Within HCA	Yes		
SRC/IRC	No		
Pipe Diameter	[redacted]		
MAOP	[redacted]		
SMYS	[redacted]		
Construction Start Date	[redacted]		
Construction Completion Date	[redacted]		
Project Costs ($)	**Capital**	**O&M**	**Total**
Loaded Project Costs	1,646,341	2,576,723	4,223,063

B. Maps and Images

Figure 1: Satellite Image of Line 3002 [redacted]
[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 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 and 3 below.

1. Inspection – Engineering, Design, and Constructability: SoCalGas identified 3002 for Inspection using ILI.
   a. ILI from a temporary launcher site at [redacted] to a temporary receiver site at [redacted].
2. Direct Examination – Engineering, Design, and Constructability: 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 consisted of soft pad repairs.
   b. Direct Examination Site #2 consisted of soft pad repairs.
   c. Direct Examination Site #3 consisted of a replacement.
3. Post Assessment – Engineering, Design, and Constructability: The validation analysis of the Direct Examination following the Inspection resulted in no additional examinations.
4. Final Project Scope: The final project scope of this Workpaper 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
3002	.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
3002	1	Yes	No	3 ft	Soft Pad	N/A	O&M
3002	2	Yes	No	32 ft	Soft Pad	N/A	O&M
3002	3	Yes	No	37 ft	Replacement	33 ft	Capital

B. Engineering, Design, and Constructability Factors – Inspection

SoCalGas initiated the planning process for the Line 3002 [redacted] Project by performing a Pre-Assessment engineering analysis to determine existing conditions and any impacts to the Project, confirm the appropriate Inspection methods, and select the Inspection tools. Key factors that influenced the engineering and design of this Project are as follows:

1. Site Description: The ILI included a temporary launcher site at [redacted] and a temporary receiver site at [redacted].
2. HCA Threats:
   [redacted]
3. Pipe Vintage: Multiple vintages ranging from [redacted]
4. Long Seam Type:

[redacted]

5. Inspection Tools and Technologies: The Project utilized a combination tool 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: The Project Team determined that there was a possibility of a short curtailment for large customers during the ILI. Significant upfront coordination with these customers was required to mitigate potential issues. During construction, the Project Team and customers were prepared for a curtailment but determined it was no longer necessary for the ILI.
8. Community Impacts: Traffic impacts and occasional noise occurred during ILI activities.
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. Caltrans Encroachment Permit for [redacted] Receiver.
    b. City of Glendale Excavation Permit.
12. Land Use: No identified impacts.

13. Traffic Control: The Project Team required and obtained approved traffic control measures from Caltrans that included flaggers, temporary railing, cones, and signage to provide a safe work area on [redacted]. The Project Team recognized early on that Covid-19 was increasing Traffic Control Plan (TCP) approval turnaround time for other projects. In order to mitigate this risk, the Project Team submitted the TCP well in advance and received approval from Caltrans two months prior to construction.

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

Continuing the planning process for the Line 3002 [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 two [redacted] Sites selected to assess pipeline segments that could not accommodate an ILI tool within the Line 3002 [redacted] TIMP Project.
      i. Direct Examination Site #1 consisted of soft pad repairs.
      ii. Direct Examination Site #2 consisted of soft pad repairs.
      iii. The Project Team completed these Direct Examinations during the Inspection Phase of the Project.
   b. There was one Direct Examination Site selected for validation within the Line 3002 [redacted] TIMP Project.
      i. Direct Examination Site #3 consisted of a 33-foot replacement.
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: The Project had minimal community impact because the sites were in an area that did not require traffic control.
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: There were no special permits or permit restrictions for this Project.
8. Land Use: No identified impacts.
9. Traffic Control: 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 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		

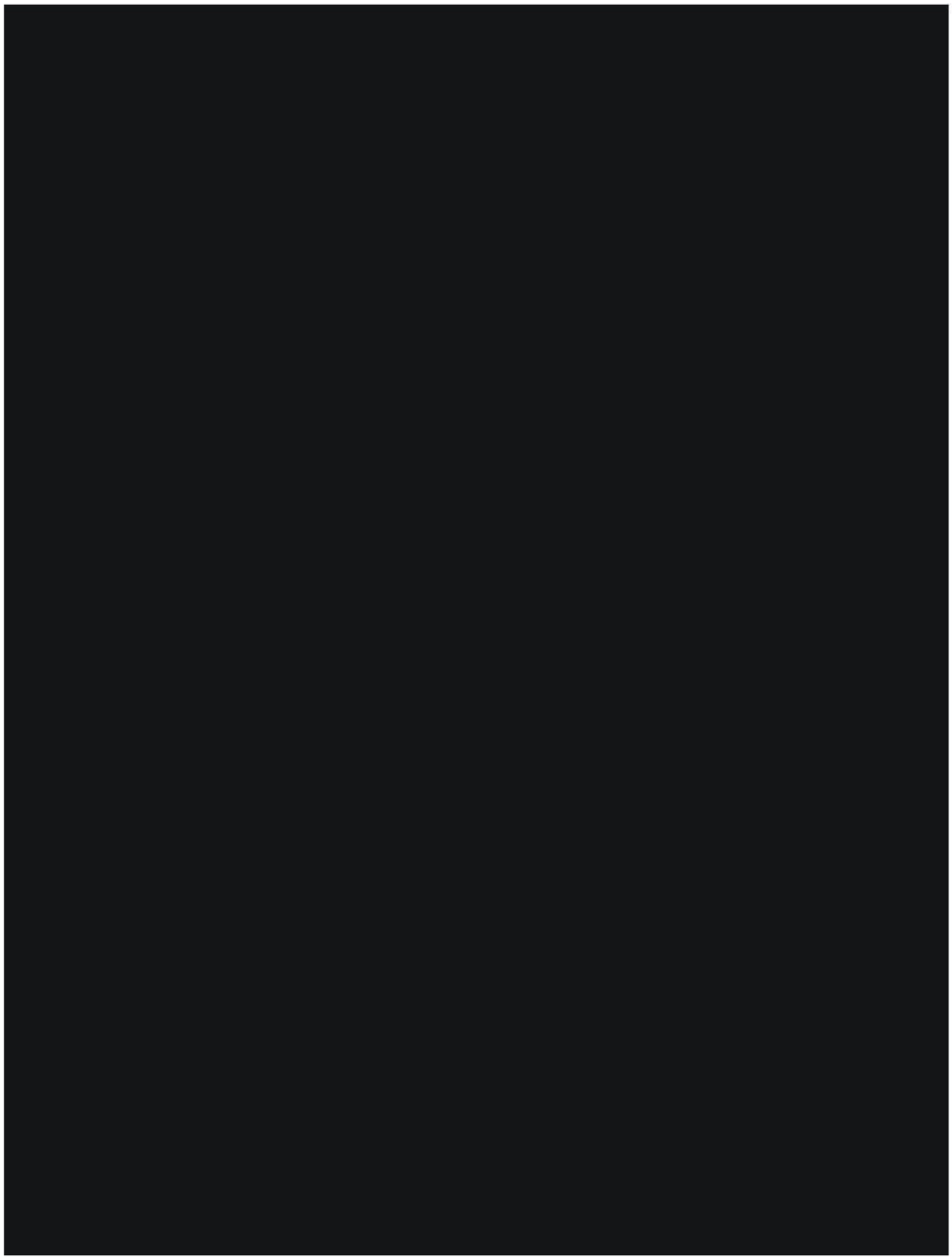
Figure 2: In-Line Inspection Tool

Figure 3: In-Line Inspection Launcher Site

Figure 4: In-Line Inspection Receiver Site

Figure 5: Direct Examination Site #2 Excavation

Figure 6: Direct Examination Site (E1) Overview



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 $4,223,063.

Table 6: Actual Direct Costs[2]

Direct Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Company Labor	84,133	159,915	244,048
Contract Costs	1,088,534	1,608,004	2,696,539
Material	11,308	84,542	95,850
Other Direct Charges	195,554	510,428	705,982
Total Direct Costs	1,379,529	2,362,890	3,742,419

Table 7: Actual Indirect Costs[3]

Indirect Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Overheads	264,899	213,833	478,732
AFUDC	165	0	165
Property Taxes	1,747	0	1,747
Total Indirect Costs	266,812	213,833	480,645

Table 8: Total Costs[4]

Total Costs ($)	Capital Costs	O&M Costs	Total Actual Costs
Total Loaded Costs	1,646,341	2,576,723	4,223,063

[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 3002 [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 $4,223,063.

End of Line 3002 [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:

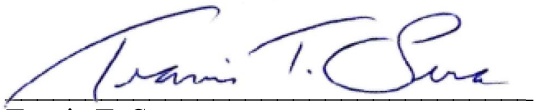
1. I am the Director of Integrity Management for Southern California Gas Company (SoCalGas). I have been delegated authority to sign this declaration by Amy Kitson, Vice President of Gas Engineering and System Integrity for SoCalGas. I have reviewed the confidential information included within SoCalGas-02-WP 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)	